Beirut 1920-1940
Domestic Architecture Between Tradition and Modernity

Robert Saliba

The Order of Engineers and Architects - Beirut

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photography by Michel Assaf

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First published in 1998 by
The Order of Engineers and Architects - Beirut
P.O.Box: 11-3118
Beirut, Lebanon

Cover:
Art Deco bldg., Sanayeh, rue Emile Eddé,
surveyed by Asmahan Abou Jaoudeh,
Ivan Limanski and Lana Yamak

Printed and bound in Lebanon.

Foreword

Much has been written and published about traditional Lebanese architecture from the seventeenth century up to the end of the World War I and the collapse of the Ottoman Empire.

The period 1920–1940, much neglected, represents the exposure of Lebanon to direct Western rule through the mandatory power of France. The socio-political influence of France and its traditional cultural connection with Lebanon have left their mark during this mandatory period on the architectural and urban scene, specially in Beirut, which became the seat of French power in the Orient. The architectural wealth of this heritage has been much neglected in the recent past and almost completely ignored by the general public.

In sponsoring the publication of this book, the Order of Engineers and Architects in Beirut has taken the initiative to record this rich architectural heritage, constantly threatened by erosion through savage urban expansion and a total absence of protection laws.

With this initiative, the Order of Engineers and Architects reinforces its role in fostering research associated with the engineering and architectural fields of practice and assisting professionals in providing venues for publishing their works. This is not just another book dealing with nostalgia and memory. It is founded on academic research, professionalism and devoted passion for an era that has marked profoundly the urban scene associated with the memory of Beirut. It is intended to reach the professionals as well as the ever-growing public interested in this exceptionally rich period of Lebanon's urban heritage.

To the unknown master builders mainly responsible for this heritage, this book is intended as a tribute to their achievements. It is also dedicated to those pioneering engineers and architects of the modern movement in architecture in Lebanon.

Its publication could not have been achieved without the devotion and care displayed by its author, Mr. Robert Saliba, architect and urban planner, whose love for this architectural period cannot be surpassed.

Assem Salaam, President
Order of Engineers and Architects
Beirut, September 1998

Preface

This book investigates the early Westernization of Beirut's domestic architecture from the late nineteenth century to the end of World War II, emphasizing the development of the central-hall buildings from a suburban house to an urban apartment model.

Until the preparation of this manuscript, few architectural studies had been conducted on this transitional phase between tradition and modernity. This book intends to fill this gap through an extensive documentation and analysis of remaining residential structures. It is backed by a historical research on the socio-political and cultural context underlying Beirut's emergence and establishment as a capital city and *la porte de l'Orient* under French Mandate influence. However, a more immediate aim is to raise consciousness about an endangered heritage pertaining to Beirut's recent past and to provide more informed criteria for its analysis, classification and preservation.

From an academic and professional perspective, this study starts from the premise that central-hall buildings have contemporary relevance and, therefore, are open to modern interpretation as generative models for design thinking. They appeal both to the general public and design professionals through their diversified stylistic features and their synthesis between Western influences and vernacular traditions. Accordingly, Mandate central-hall buildings constitute a promising avenue of investigation to explore and to learn from, especially following half a century of partially assimilated modernism.

Notes on Scope and Methodology

Stylistic pluralism and typological mutation, which characterize Beirut's Mandate architecture, are two phenomena associated with the nineteenth century's fast urbanization, industrialization and European colonial expansion. Both phenomena occurred in Western metropolises, as well as in their colonial outposts from South America to India to the East Mediterranean region. As a rising provincial center of the Ottoman Empire and later as a capital city under the French Mandate, Beirut underwent two successive waves of transformation: "second-hand modernization" by Istanbul during the late nineteenth and early twentieth centuries, followed by "firsthand modernization" by Paris during the 1920s and 1930s. The transition followed two phases: the Late Ottoman phase saw the expansion of the city outside its medieval walls and the rise of a new building type: the bourgeois suburban central-hall structure; and the French Mandate phase witnessed the fast urbanization of the periphery and the formation of the urban walk-up apartment building. Section One of this book investigates the shaping forces of the new residential types in terms of social change and physical urbanization (Ch.1), building technology and design practice (Ch.2) and the specificity of Beirut's eclecticism as compared to similar trends in colonial metropolises and provincial centers (Ch.3).

Tracing the pattern of cultural and technological diffusion at the turn of the century proved to be a difficult task, since few studies have been written until now on this subject. Recent literature dealt with case studies on Istanbul (Çelik 1986), Cairo (Volait 1988), Algeria and Tunis (Beguin 1983), Damascus and Aleppo (Friès 1996, David and Hubbert 1982), Beirut (Davie, May 1987, 1996; Ghorayeb 1989), emphasizing public architecture and urbanism over domestic architecture. Little attention was given to the evolution of building construction and techniques, the role of trade catalogs in the local manufacturing of building materials, and the interaction between vernacular and an emerging high design tradition. Although Section One has attempted to cover those issues in the case of Beirut, the search for regional variations and patterns of cultural exchange was made difficult due to the scarcity of detailed literature on domestic colonial architecture in the region. The connection between Beirut, Istanbul and Paris was stressed due to the availability of research material and to the forced cultural exchange between colonial metropolises and their provinces. However, future research should stress regional and local variations among provincial centers; i.e., Beirut, Cairo and Alexandria on one hand and Beirut, Damascus, Aleppo and Tripoli on the other. Such studies would help to further define Beirut's architectural specificity in relation to its regional and immediate context.

Section Two focuses on architectural analysis. As mentioned above, the particularity of the French Mandate period was the superimposition of eclectic styles over a traditional spatial scheme; i.e., the central-hall plan. New façade elements were introduced and styles overlapped. The high diversity of façade treatment and the relative continuity in internal planning led to the emphasis on façade typology (Ch.4-9). Spatial analysis and the evolution of the central-hall plan will be added to the next edition.

Section Three is a reference section. It includes a sample of thirty buildings with their plans, elevations and partial sections. This sample covers upper, middle and lower-cost structures, as well as different façade and plan types. It was taken as a point of departure for the city-wide survey undertaken for this study.

The three sections of this publication do not pretend to exhaust the subject of Mandate residential architecture. Key issues covered in Section One deserve further investigation on their own. These issues vary from the social history of residential architecture during the Late Ottoman and French Mandate periods to the changing concept of domesticity between traditional and transitional housing. Further research is needed to understand the role of key designers (both local and foreign) in shaping Beirut's eclectic and early modern residential architecture, the prevalent building regulations and controls, and their level and mode of enforcement by the municipality. On this latter subject, the author researched the evolution of the building law since the Late Ottoman and French Mandate periods. Ongoing research is being conducted on the Beirut municipality during the pre-Independence period. In summary, more attention will be given to the analysis of **building process** vs. **building product.** It is hoped that this study will provide the necessary impetus for additional research in this direction, and that it will widen the frame of reference for students and observers, as well as design professionals.

Robert Saliba, Beirut, September 1998

Acknowledgments

This publication was made possible through the personal initiative of Mr. Assem Salaam, president of the Order of Engineers and Architects, who was instrumental in allocating the necessary funds for study finalization and book production. Mr. Salaam read and commented on the entire manuscript. His initial and continuous suggestions helped to direct the scope of the study from an academic report to an architectural reference work equally addressed to the specialist and to the general reader.

This publication is the outcome of five years of personal research and teaching. I would like to thank the students who, for two consecutive summers, helped in recording a representative sample of Mandate residential buildings subject to disappearance in the near future. A special mention is due to Mr. Joseph Hajjar, Mr. Samer Mudallal and Mr. Marwan Sinno who, as teaching assistants, monitored field surveys and studio sessions with dedication and high efficiency. Appreciation should also be expressed to the students who participated in the seminar course on the same subject; they enriched and stimulated the ideas in this book through class discussions and course work. Also, a special word of thanks to Ms. Mona Fawaz and Ms. Maysa Sabah for their generous assistance in compiling and editing a compact reference document of student drawings. My appreciation is extended to Mr. Akram Zaatari for the television documentary series he based on this study and for the first set of photographs he produced of the recorded buildings (which he was unfortunately unable to continue.)

I am especially indebted to Michael and May Davie for their long-term assistance and backing. They were the first to recognize the academic relevance of this study through my invitation in 1994 to a workshop on the "Architectures Exportées" at the Université de Tours. Mr. Davie reviewed and made lengthy comments on the first part of the manuscript. Also, I would like to thank Mr. Jean-Charles Depaule for our meetings during his short visits to Beirut, for reading the manuscript and for his valuable comments both on building construction and issues of stylistic identification. A special word of thanks is due to Mr. Omar Abdulaziz Hallaj, a colleague and a friend, who provided detailed suggestions on the entire final draft. His thorough review and perceptive assessment allowed me to make substantial improvements and especially to view the study within the wider context of current literature in the field.

Valuable information on engineering education and design practice was contributed by Mr. Salah Itani and Mr. Joseph Najjar. I am grateful to both of them for the extended time they spent with me on interviews. I am also grateful to Mr. Georges Araman and his sons, who went to considerable trouble to locate and make available documents on the evolution of the building industry in Lebanon, some of which are reproduced in this book. Finding information on building construction and practice in the 1920s and 1930s was a difficult and often frustrating task. Key information was collected from skilled workers and accomplished craftsmen in Beirut, Tripoli and Damascus. They all welcomed me in their workshops and on building sites. Some of them are cited in footnotes; and to the numerous others, I would like to extend my gratitude and appreciation.

Interviews with families of original owners and renters, who are themselves long-term Beirut residents, were instrumental in dating key buildings and in conveying important insights about the social and economic aspects of Mandate residential buildings. I would like to thank all of them for their hospitality and patience in responding to my questions. I particularly appreciate the contribution of Mrs. Laudi Geara Khoury, who was exceptionally open and thorough in passing on information about the history of her family and the residential growth of the Mar Mikhael area.

Grateful acknowledgment is made to Ms. Asma Fathallah, Archives and Special Collection Librarian at Jafet Memorial Library, for helping me with references and source material on engineering education at AUB. I am also grateful to Ms. Odile Dupont at the Library of the ESIB and Ms. Magda Nammour and Ms. Nouhad Salameh at the Bibliothèque Orientale of the USJ.

I am indebted to Ms. Simone Kosremelli who, despite her heavy schedule, took on willingly the task of monitoring work progress and resolving the numerous problems associated with time and budget limitations. Her input throughout the writing and final production process was instrumental in keeping illustration material and text within reasonable bounds without compromising quality.

Finally, I should add that neither the readers of the manuscript nor my sources of information are in any way responsible for errors of fact or interpretation in this publication.

This book is dedicated, in gratitude, to my mother.

COURSE WORK

American University of Beirut

A325: Regional Architecture, Summer semester

Teaching Assistants: Joseph Hajjar, Samer Mudallal, Marwan Sinno

1993

Asmahan Abou-Jawdeh
Dania Akhal
Nadia Alaily
Mohammad Arayssi
Issa el Hajj
Lina el Majzoub
Carine Fakhreddine
Nadine Hindi
Souraya Karami
Noha el Khoury
Ivan Limanski
Karim Mouallem
Dalia Moufarrege
Naji Moujaes
Wissam Salameh
Johnny Salman
Mazen Soueidan
Jimmy Tadros
Amal Takkoush
Vahe Topakian
Lana Yamak

1994

Raja Abillama
Dany Abla
Mariette Abou-Jaoudeh
Chekri Abou Saab
Makram Kadi
Lina Baki Zada
Haifa el-Sayed
Carlos Haddad
Johnny Hajj
Samir Hakim
Ziad Hamzeh
Kaline Hayek
Rindala Iskandar
Ahmad Jammal
Zeina Kantar
Maya Karanouh
Youssef Khayat
Steven Khoury
Ghassan Maasri
Christine Mady
Hagop Panossian
Joanna Saad
Ghada Sabeaayoun
Assem Tannir

A95C: From House to Apartment Building, Fall 1994-95

Maha Abdel-Rahman
Rani el-Khatib
Mazen Badawi-Najjar
Mona Fawaz
Nizar Mouawad
Zaki Nakkash
Maysa Sabah

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F1,F2,G2,H1,I1],
p.88-89:[A2,A3,A4,B2,B3,C1,C2,D1,D3,E1,E2,
F1,F2,F3,F4,F5,G2,H4,H5,H6,I3,I4,I5,K3,K4],
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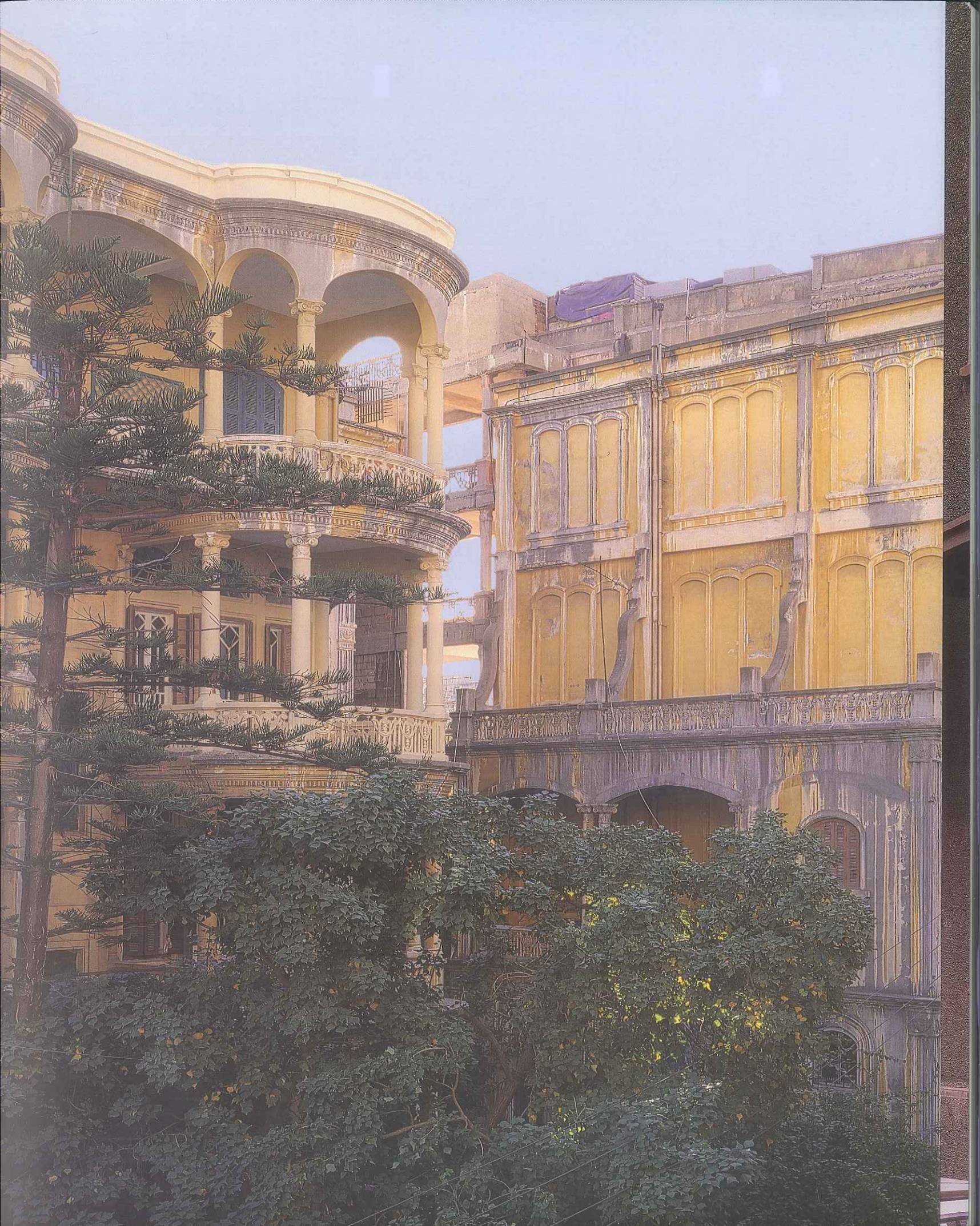
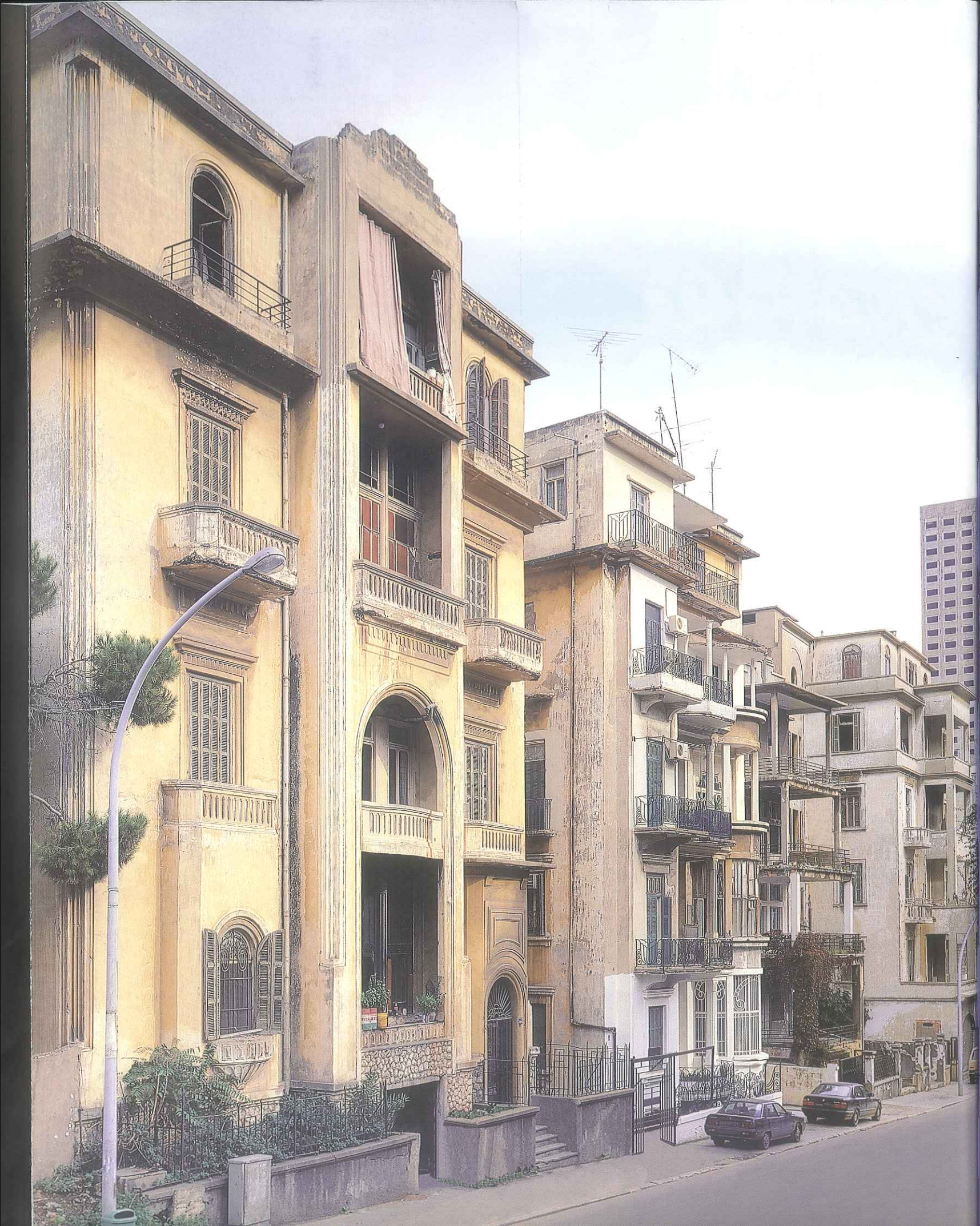





LAND ROVER


7UP


Pharmacie
médapharm
CONFECTION


VICEROY
PEPSI


ELIE BAZ
AUTO
SPORTS

POLITICAL EVENTS

1920 Lebanon allotted to France as a mandated territory.
Declaration of the state of Greater Lebanon amidst political controversy.

1926 Approval of the Constitution; end of the state of Greater Lebanon; establishment of the Lebanese Republic under the French Mandate.

LEGAL STATUS

1920 Beirut, capital of Greater Lebanon and seat of the Mandate for Syria and Lebanon.

1926 Beirut, capital of the Republic of Lebanon.

ECONOMY AND DOMINANT FUNCTION

Colonial port city with trade-based economy; import entrepôt for Syria.

Growth of service sector assisted by local skills in commerce and the improvement of telecommunications, harbors and roads.

Subordination of agriculture and industry to banking and trade.

Economic and administrative centralization in capital city.

1928-35 Increasing economic depression due to worldwide conditions.

SOCIAL TRENDS

Diminishing power of the urban aristocracy and the high mercantile bourgeoisie; emergence and consolidation of a new middle class of professionals, bureaucrats, educated clerks and small merchants.

Continuing rural to urban migration.

Immigration of communities fleeing persecution (22,000 Armenians in 1922).

POPULATION

1925-26 Beirut: 150,000 inhabitants; Lebanon: 597,787 (League of Nations, Ref. C7 N4175 D2, 1927).

1932 Beirut: 179,370
(Lebanon: 861,399)
including in descending order:
52,530 Sunni Muslims
29,477 Maronites
23,060 Armenians (Orthodox and Catholics)
20,072 Greek Orthodox
11,657 Shiite Muslims
8,450 Roman Catholics
5,056 Druzes
3,697 Protestants
2,246 Syriac Catholics
1,759 Syriac Orthodox
989 refugees (last census by mandatory authority).

CITY SIZE AND GROWTH

1.5 km E-W x 3km N-S.

Consolidation of peri-center districts (Ain el Mreissé, Sanayeh-Kantari, Zokak el Blatt, Bachoura, Furn el Hayek, Gemmayzé).

Growth of residential suburbs (Ras Beyrouth, Basta, Achrafiyé).

Linear expansion along tramway lines and major roads leading to Tripoli (rue Gouraud), Sidon (rue Basta), Damascus (rue de Damas); also along rue Georges Picot - avenue Bliss leading to Ras Beyrouth.

CADASTRE AND LAND CODES

1926 Institution of land surveying and property delimitation (Arrêté 186/LR); establishment of new title registration system replacing the old *Tapu* and *Defter Khaneh* (189/LR).

1930 Establishment of Property Law (Arrêté 3338/LR and 3339/LR) and abolishment of Ottoman land codes.

1930 First set of cadastral maps of Beirut.

INFRASTRUCTURE AND PUBLIC WORKS

Lebanon and Syria members o the Postal Union; major improvemen in postal services (from 68 post office in 1919 to 411 in 1939).

1922 Seventy-five-year concession t Radio-Orient Telecommunications Com pany and erection of powerful trans mitters at Khaldé, tying Beirut t Western capitals.

Improvement of electric light ing ("Société des Tramways et Eclairag de Beyrouth"); street cleaning and plan watering; laying out of sewer network

1922 Building of reinforced concret water tower by Beirut's Water Boar on the top of Achrafiyé hill [2].

1927 Opening of Bir Hassan Airport

Building of the Corniche.

1937 Enlargement and moderniza tion of Beirut seaport – jetty spac improved and anchorage area w dened and deepened [3].

High increase in vehicular traf fic (from 100 motor vehicles in 1919 t 11,000 in 1939) and newly-constructe roads (2,900km in 1939 against 700kr in 1920).

1922-39 Modernization and redevelop ment of the center through the oper ing of principal avenues (Foch, Allenb and Weygand); the creation of square and open spaces (Place Debbas, Plac de l'Etoile and the redesigning of Plac des Canons in the French style in 192 and the development of rue Maarad i 1930 [4-6].

Implementation: Land sold by auctio to generate income for new building increase in land prices allowing fc debit payments through expropriatior real estate boom bringing tax mone to municipality.

BUILDING REGULATIONS AND CONTROLS

1920-40 Application of Ottoman build ing code with minor amendments.

1940 Enactment of new buildin code (Decree No 61/LE) regulatin building permit procedures, buildin height, protrusions and setbacks wit ancillary provisions for 'passive defens measures, such as fire protection an underground shelter specifications.

The Government of Beirut During the French Mandate

(Excerpt from Walter H. Ritcher, *Municipal Government in Lebanon*. American University of Beirut, Publications of the Faculty of Arts and Sciences, Social Sciences Series, No 3. Beirut: American Press, 1932, pp.22-26).

Upon the establishment of the mandatory regime, the government of Beirut was functioning under a municipal council, half of whom had been elected in 1915. Although their tenure of office had expired in 1919, they were still functioning, as no new elections had been held. Partly on this ground and also because of the objection that the council as constituted did not satisfactorily represent the various religious sects, the council was dissolved in 1920 and an administrative commission appointed. Municipal government was still being carried on under the provision of the Ottoman Vilayet Municipal Law of October 5, 1877. In 1922 this regime was replaced by the new municipal code promulgated by Arrêté No. 1208 of March 19, 1922.

Arrêté No 1450, July 23, 1920; Recueil des Arrêtés et Décisions de la Zone Ouest, (Imprimerie des Lettres, Beyrouth, 1924), p.26.

Supra, p.1.

In 1924 the government appointed a commission to study the special problems of administration arising out of the fact that Beirut was the capital of the Lebanon and the seat of the French High Commission, the largest city in the country, and composed of a highly heterogeneous population. This commission proposed the reorganization of the Beirut administrative machinery under a special charter differing in several respects from the general municipal code. This proposal was adopted and the Beirut Municipal Law was promulgated on July 30, 1924 as Arrêté No. 2671. In its general outlines the new law follows the principles of the general code of 1922. The points of difference alone will be treated in the following pages.

Journal Officiel, No F. 178, pp.2-8.

Status of Mayor

The municipality of Beirut had always been classified as one of the principal administrative divisions of the Lebanon, ranking as a *sandjak* under the earlier laws and as a district under the reorganization effected under Decret-Loi No. 5 of February 3, 1930. Under its new municipal charter, the administrator became the mayor or president of the municipal council, a position which had been elective under the preceding regime.

Supra, pp.1-2.

Arrêté No. 2671, loc. cit., Art. 2. This arrangement automatically gives Beirut a certain degree of increased autonomy, inasmuch as certain matters which in the ordinary municipality must be submitted to the administrator of the District come within the competence of the Mayor. At the same time it brings the city more directly in touch with the central administration, as all reference to the higher authorities goes directly to the Ministry of the Interior.

Thus, the Mayor of Beirut has final authority in all matters of appointment and dismissal from the municipal services; he receives the resignations of municipal councilors or assistant-mayors; he has power to dismiss any councilor who, after election, is found to be ineligible or who fails to comply with the law concerning attendance at council meetings. On the other hand, certain functions which ordinarily fall to the administrator, in the case of Beirut, are exercised directly by the central authorities. For example, the Minister of the Interior may require a second deliberation of matters brought before the council at a special meeting on grounds of urgency; he receives directly the

Arrêté No. 1470, Rec. Z.O., loc. cit., p.27.

Arrêté No. 2671, loc. cit., Art. 51. Cf. Supra, p.17.

Ibid., Art. 31. Cf. Supra, p.12.

Ibid., Art. 49.

Ibid., Art. 12 Cf. Supra, p.5.

Ibid., Art. 32. Cf. Supra, p.12.

Ibid., Art.23. Cf. Supra, p.11.

INFRASTRUCTURE AND PUBLIC WORKS

Lebanon and Syria members of the Postal Union; major improvement in postal services (from 68 post offices in 1919 to 411 in 1939).

1922 Seventy-five-year concession to Radio-Orient Telecommunications Company and erection of powerful transmitters at Khaldé, tying Beirut to Western capitals.

Improvement of electric lighting ("Société des Tramways et Eclairage de Beyrouth"); street cleaning and plant watering; laying out of sewer network.

1922 Building of reinforced concrete water tower by Beirut's Water Board on the top of Achrafiyé hill [2].

1927 Opening of Bir Hassan Airport.

Building of the Corniche.

1937 Enlargement and modernization of Beirut seaport – jetty space improved and anchorage area widened and deepened [3].

High increase in vehicular traffic (from 100 motor vehicles in 1919 to 11,000 in 1939) and newly-constructed roads (2,900km in 1939 against 700km in 1920).

1922-39 Modernization and redevelopment of the center through the opening of principal avenues (Foch, Allenby and Weygand); the creation of squares and open spaces (Place Debbas, Place de l'Etoile and the redesigning of Place des Canons in the French style in 1929) and the development of rue Maarad in 1930 [4-6].

Implementation: Land sold by auction to generate income for new buildings; increase in land prices allowing for debit payments through expropriation; real estate boom bringing tax money to municipality.

BUILDING REGULATIONS AND CONTROLS

1920-40 Application of Ottoman building code with minor amendments.

1940 Enactment of new building code (Decree No 61/LE) regulating building permit procedures, building height, protrusions and setbacks with ancillary provisions for 'passive defense' measures, such as fire protection and underground shelter specifications.

PLANNING AND CIVIC DESIGN

1931-32 Studies for the first master plan for Beirut by French consultants les Frères Danger (Plan Danger).

Three main concerns:
1- urban hygiene, public health and safety
2- accessibility, urban communication and transport
3- urban aesthetics

Main recommendations:
Enlargement of the port; *boulevard periphérique* with network of open spaces; proposed industrial zone at the place of the Armenian quarter; garden city scheme at Achrafiyé; two subdivision schemes at Ras Beyrouth and the Quartier des Sables.

BUILDING MATERIALS AND CONSTRUCTION

Widespread use of cement, cast stone, and the introduction of reinforced concrete and skeleton construction.

1929 Establishment of the Société des Ciments Libanais, first cement factory, through a joint French-Lebanese venture; production started in 1931.

KEY BUILDINGS AND NEW BUILDING TYPES

1921 Beirut Fair with Beirut pavilion, neo-Moorish / *café concert* style [8].

1928 Muncipality building by Yussef Aftimus, neo-Ottoman style [9].

1930 Hôtel St. Georges by Antoine Tabet, early modern / Perret style.

1930 Grand Theâtre by Yussef Aftimus, neo-Ottoman style.

Mid 30s Four movie theaters: Roxy, Dunia, Empire and Radio City, early modern style [10].

1934 Almaza Beer Factory by Antoine Tabet, early modern style.

1935 Parliament, neo-Ottoman style.

1937 National Museum by Antoine Nahhas, Egyptian revival style [11].

8

9

11

Source:
Debbas,
Paris: F

records of all council meetings; no *arrêtés* of the mayor are executory until approved by the Minister ; any expenses not provided for in the budget must receive his approval; and the services and accounts of the municipality are open to inspection and verification by his agents at any time.

Ibid., Art.30. Cf. Supra, p.12.

Ibid., Art. 66.

Ibid., Art. 69.

The mayor receives a salary from the central government, the amount of which must be inscribed in the municipal budget and paid in to the national treasury.

Ibid., Art. 50. He is the only mayor receiving a salary in his capacity as municipal executive.

Composition of the Council

The constitution of the Beirut municipal council differs in several respects from those of other municipalities. In the first place, it has a larger membership in order to secure representation for the many sects represented in its constituency. Originally constituted with fourteen elected members, it was enlarged by Arrêté No. 3627 of April 21, 1926, to contain 16 elected members. The seats are distributed among the different sects as follows:

5 Sunni Moslems,
2 Maronites,
2 Greek Orthodox,
1 Chiite Moslem or Druze,
1 Representative of minority sects.
4 Representatives of foreigners (nationals of member states of the League of Nations or of the United States).

Journal Officiel, No F. 316, p.2.

The members of the council are elected by direct universal suffrage of all male inhabitants of the city having the qualifications required by the national electoral law, except that no distinction is made on the basis of nationality or sect. By amendment in 1926, this provision was changed so that the Lebanese members are elected by their own nationals, the foreign members being elected separately by the inhabitants of foreign nationality. In actual practice, no elections have been held under the new law, the council having been dissolved in 1924 and a commission appointed which has been renewed annually since that date. Members of the foreign diplomatic or consular corps and any person in their employ are ineligible for election to the municipal council.

Arrêté No. 2671, loc. cit., Arts. 4&5.

Arrêté No. 3563, March 5, 1926, Journal Officiel No. 308 and Arrêté No. 3627, loc. cit.

Arrêté No. 2671, loc. cit., Art. 9.

Powers of the Council

The Beirut council is invested with all the powers appertaining to the ordinary municipal councils under the general code and in addition is empowered 1- to fix the tariff for public conveyances of all kinds, 2- to make provisions for the poor and 3- to pass on all projects of construction, reparation or demolition, which must be submitted to the council in the interests of public safety and hygiene. Its decisions in these matters are subject to veto by the central government.

Ibid., Art.35.

section 1
Shaping Forces of Domestic Architecture

chapter 1
Historical and Spatial Background

chapter 2
Building Technology and Design Practice

chapter 3
Cultural and Aesthetic Context

chapter 1

Historical and Spatial Background

The emergence and development of central-hall residential buildings correspond with Beirut's early modernization during the Late Ottoman and French Mandate periods, extending from the mid-nineteenth century to the end of World War II. The important factors affecting the residential structures of the city during this period revolved around: 1- the rise of Beirut as a colonial gateway city and the seat of the French Mandate in the Levant, 2- the formation of a Western-oriented urban bourgeoisie that gradually filled and shaped the newly created suburbs around the medieval core, and 3- the hybridization of local domestic architecture with the integration of imported construction materials and Western stylistic trends. It is, therefore, through the investigation of these shaping forces that the formation of bourgeois Beirut and the evolution of the Mandate residential architecture will be addressed.

Colonial Mercantilism and the Rise of the Urban Bourgeoisie

The appearance of a mercantile urban bourgeoisie in colonial gateway cities is not a phenomenon unique to nineteenth-century Beirut. The passage from a feudal economy to a world economy usually involved participation of members of the indigenous population in foreign-dominated trades, finances and enterprises. However, it is the magnitude of this phenomena, its local sectarian character and its future political repercussions that differentiated Beirut from other Levantine cities.

From Silk Export Outlet to Regional Entrepôt

The rise of Beirut as a major commercial port goes back to the eighteenth-century coastal revival initiated by steamship navigation, which transferred economic activity from inland caravan cities like Damascus to coastal cities. During the first decades of the nineteenth century, Beirut was a secondary trading port serving as a silk export outlet for Mount Lebanon and as a staging-post conveniently located along the coastal Levant axis. Its economic relation with and accessibility to the Syrian interior were hindered by the double mountain ranges of the Lebanon and Anti-Lebanon and the competition of two prominent coastal cities acting successively as provincial capitals; i.e., Tripoli to the north and Sidon to the south.

Guys, Henri, *Beyrouth et le Liban: Relation d'un séjour de plusieurs années dans ce pays*, Paris, Comptoir des Imprimeurs, 1850, p.227, as quoted in Fawaz Tarazi, Leila, *Merchants and Migrants in Nineteenth Century Beirut*, Cambridge, Harvard University Press, 1983, p.42.

The establishment of Beirut as the capital of *vilayet* Sidon in 1832 under the Egyptian occupation attracted consular representation and foreign traders, "because if other ports include a few local merchants, Beirut has a greater number of them and among the richest." The presence of military headquarters and garrisons furthered its economic growth, along with major improvements such as the creation of a quarantine area and the enlargement of the port. However, it is between 1840 and 1864 that Beirut underwent the most important changes that constituted a turning point in its modern history. The establishment of the French-controlled Ottoman Bank (1850), the low import duties and the building of the wharf attracted foreign entrepreneurs and investors, followed by trading firms and consular representatives (including in the mid-fifties the French, English, Austrian, Greek, Italian, Belgian, Dutch, Spanish, Swedish, Norwegian, Turkish and Egyptian). Finally, the construction of the Beirut-Damascus mountain road opened Beirut to the Syrian/Arabian interior and made it the principal entrepôt of the region.

Buheiry, Marwan, *The Economic Role of Beirut during the French Mandate*, Oxford: the Center of Lebanese Studies, 1987, pp.2-3;
Davie, Michael, "Maps and the Historical Topography of Beirut," in *Berytus*, vol. XXXV, Beirut, American University of Beirut, 1987, p.148;
Fawaz, 1983, pp.24-25;
Salibi, Kamal, *A House of Many Mansions: The History of Lebanon Reconsidered*, London, University of California Press, 1988, pp.164-166.

The Old Merchant Aristocracy and the New Migrant Bourgeoisie

Prior to 1840, Beirut *intra muros*, like most portal towns of the eastern Mediterranean, was formed by a diversity of ethnic and religious groups, with the predominance of a Sunni majority, followed in number by the Greek Orthodox community (estimated respectively around 45% and 26% in 1838). Recent studies based on the analysis of *wirkou* registers (Ottoman real estate tax), *wakf* documents and contemporary descriptions show evidence of inter-communal mixing and real estate transactions overlapping in confessional districts,

Fawaz, 1983, pp.131-132.

Davie, May, *La Millat Grecque-Ortodoxe de Beyrouth 1800-1940, Structuration Interne et Rapport à la Cité*, unpublished doctorate thesis, Université de Paris - Sorbonne (Paris IV), 1993.

along with identical descriptions of housing components and types (differentiated more by wealth than by religious affiliation). Already a powerful merchant class, involved in Western trade, was evident around the harbor business district [Box 1.1], living in big stone houses and owning major port facilities and business outlets in souk el Tujjar and souk el Qutn, generally reserved for export trade and large commercial transactions (i.e., the Sursocks, the Bustros, the Pharaons, etc., who at the end of the century came to form the merchant aristocracy of Beirut, along with such Sunni families as the Beyhums, the Daouks and the Barbirs).

Davie, May and Nordiguian, Levon, "L'Habitat urbain de Bayrut al-Qadimat au 19e siècle," in *Berytus*, vol. XXXV, Beirut, American University of Beirut, 1987, pp.42-43. Also Fawaz 1983, pp.106-107.

However, the key factor in the rise of a new urban bourgeoisie would become the massive migration of Maronites from the mixed Druze districts in Mount Lebanon and the Greek Orthodox influx from Damascus and Aleppo, following the 1845, 1850 and, mainly, the 1860 sectarian upheavals. The accompanying promulgation of the Ottoman *Hatt-i Humayun* decree in 1856, under European pressure, affirmed the equal status and duties of all confessions, therefore recognizing and safeguarding Christian Ottoman subjects.

Buheiry, 1987, pp.1-2; Holt, 1966, pp.170-172, p.242; Johnson, 1986, pp.11-12.

"Between 1840 and 1865 the number of Muslims in Beirut doubled; the number of the Christians tripled." Due to the relative political security and stability and the expanding opportunities for trade and employment, rural and urban migrants settled in Beirut, starting therefore the formation of a middle class that conditioned the subsequent social structure, economic growth and urban expansion of the city. The new migrants encompassed two major groups: the more affluent refugees, mainly of urban origin (Aleppo and Damascus), and the refugees of modest background, generally of rural origin (Mount Lebanon).

For a detailed account of Beirut's population growth and confessional composition during the nineteenth century, see Fawaz, 1983, Ch.4, and Tables 1, 2, 3, pp.127-132.

By the mid-nineteenth century, economic life in Beirut revolved around silk traders, financiers, producers and entrepreneurs operating under consular protection. Christians, as the co-religionists of Western merchants, took the role of intermediaries and brokers between traders, local retailers and silk cultivators. They competed

BOX 1.1
UPPER BOURGEOISIE *INTRA MUROS*

As described by Fawaz, an early nineteenth-century traveler "first crossed a relatively new and pleasant part of town just outside the port area. The only two good streets of Beirut were to be found there, lined with the largest stone houses of the town. Just beyond was the street inhabited by bankers and money changers, and beyond that the Greek quarter, with its coffeehouses and cabarets."

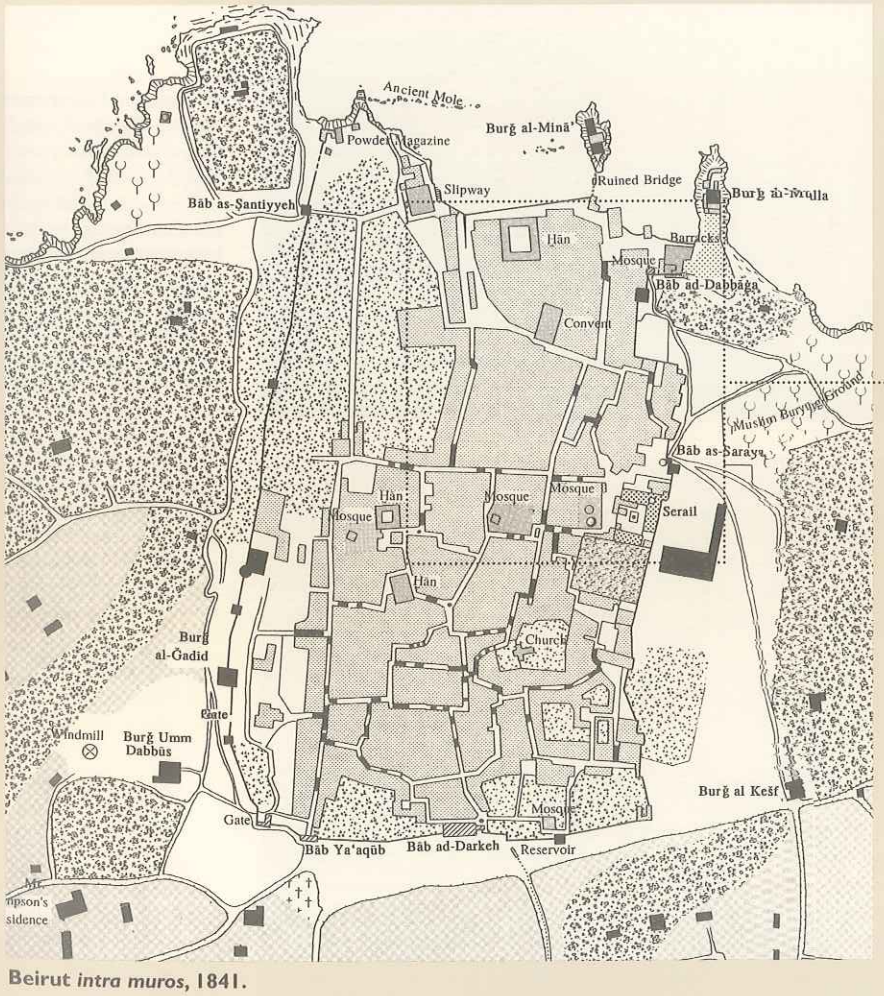
Fawaz, 1983, p.10.

for consular-protected status by serving as dragomen or secretaries and by providing unpaid services to secure the reduced taxes and other privileges enjoyed by foreigners. They played on being Ottoman subjects or Western "protégés" according to their interests. They were soon able to compete with foreign merchants by opening silk-spinning factories, banks and insurance companies, and by being local representatives of foreign merchant houses. They also diversified their investments in currency, commodities, real estate speculation and the hotel business. The old established families, whose traditional wealth was based on urban and rural landholdings, amassed considerable fortunes by adapting to a Western economy of transit trade, while a new merchant class of self-made entrepreneurs and professionals went up the social scale, following the same process of cultivating European connections and extending and diversifying their economic base. While silk export trade was in the hands of the Europeans (mainly French) and local Christians, Muslim merchants dominated interior trade with the Syrian / Arabian hinterland and relied on government influence, being the co-religionists of the Ottoman regime. They rarely competed for Western consular protection and looked with suspicion and resentment at the increasing penetration of Western influence and the one-sided French cooperation with the Christian bourgeoisie.

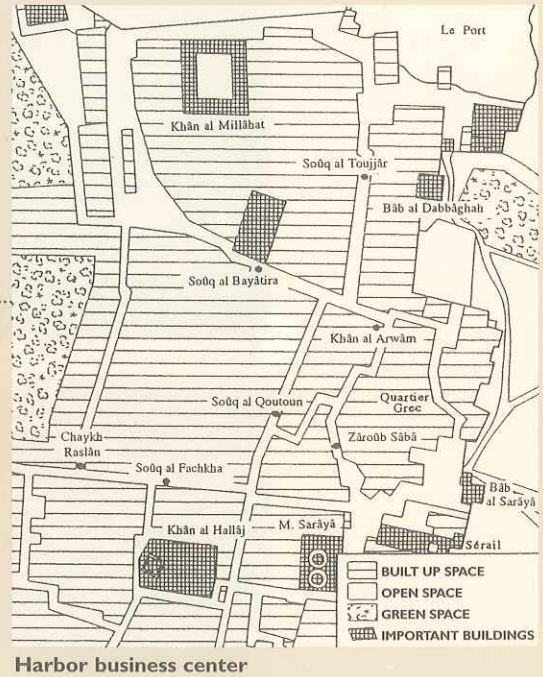
Early Formation of Residential Beirut: Urban Growth and Housing Typology

Between 1840 and 1880, the population of Beirut increased from 10,000 to 80,000. By 1920, it had reached 130,000, and in 1932 the count of the French population census was 160,000. This phenomenal demographic expansion initiated residential dynamics that shaped the social topography of municipal Beirut, both in terms of its current neighborhood and district configuration and the spatial segregation of its inhabitants according to religious affiliation, income and place of origin. As described by May Davie, the city underwent three successive stages of inner transformation and urban expansion before the establishment of the French Mandate in 1920. Those stages changed the image and status of Beirut from a medieval Arab-Islamic city to a "ville bourgeoise Méditerranéenne" [Tables 1.1, 1.2, 1.3, 1.4].

Beirut urban growth during the 19th and the first quarter of the 20th century is adapted from Davie, May, 1993, Ch.III, IV and V; and Davie, May, 1996, Ch.1,2.



Beirut *intra muros*, 1841.



Harbor business center

Source: Davie, Michael, "Maps and the Historical Topography of Beirut", in Berytus, vol. XXXV, Beirut, American University of Beirut, 1987, p.149 (Beirut *intra muros*)

Davie, May, 1993, p.35.

1840-1860: From Farmland to Garden Suburbs

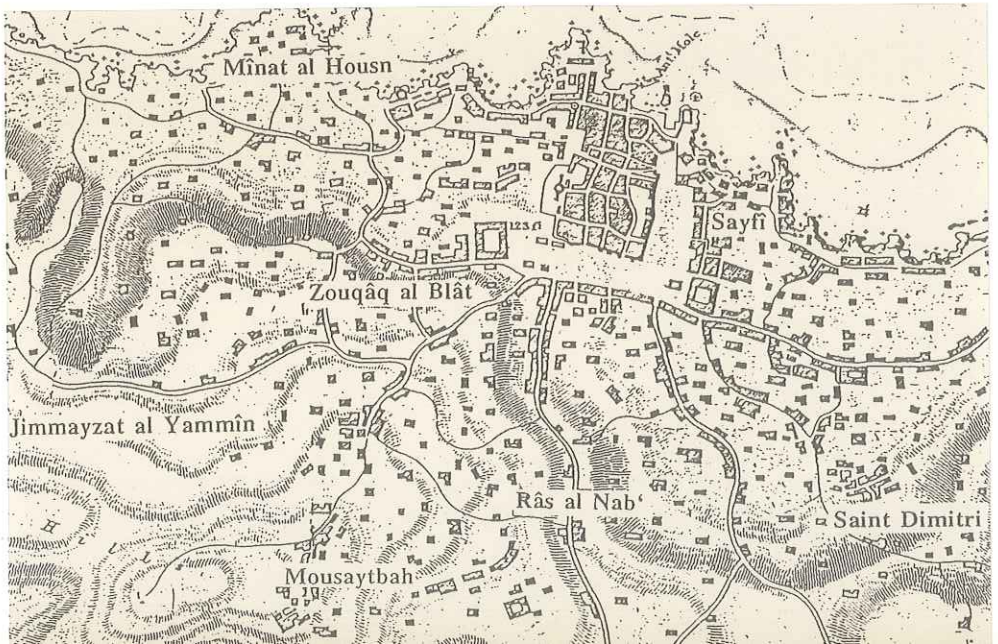
Population increases from 7,000 in 1820 to 10,000 in 1840 to 40,000 in 1860.

	Social dynamics of residential growth	Physical expansion and residential typology
Center	Initiation of a first movement of invasion and succession. Local bourgeois families move outside city walls and rent or sell their residences to newly arriving migrants (mainly due to 1842 sectarian fighting).	Densification of the center; decrease of *intra muros* open areas (25% in 1840). Vertical and horizontal extension of bourgeois residences by rural migrants. Typological change from single family courtyard type to multi-storey ad hoc urban housing, with street-level commercial and upper-level stacking of multi-family residential "modules".
Periphery	Notable Greek Orthodox families (e.g., Fayad, Bustros, Saab...) move east towards what will become later the Saifé area. Notable Muslim and Christian families (e.g., Barbir, Beyhum, Khouri, Araman) move southwest towards Zokak el Blatt. Other families will move south either to Bachoura (Muslims) or west towards Minet el Hosn (mixed).	Formation of the first garden suburbs in the periphery of the "old city". Housing types include farmhouses, in addition to the early formation of bourgeois suburban villas; introduction and increasing use of red tile roofs over both existing and new structures.
Countryside	Influx of rural migrants in agricultural villages and hamlets; e.g., Ras el Nabeh, Moussaitbé, Mazraat el Arab (later Mazraa), Gemmayzet el Yammin, Ras Beyrouth.	Emergence of communal and religious buildings on the outskirts, acting as magnets for future urbanization.

TABLE 1.1

1868 view of Beirut *intra muros* (the port quarter), showing the prevalent flat-roofed "modular" houses. In the background, the new suburban extensions.

Source: 1868 photo by Giacomo Brogli, Collection Samir Moubarak in Jidejian, N. *Beirut through the Ages*, Beirut, Dar el-Mashreq, 1973.



Beirut and suburbs, 1859.

Source: Hydrographic Office, London in Davie, May, 1993, p.145.

1860-1880: From Garden Suburbs to Urbanized Periphery

Population doubles: from 40,000 in 1860 to 80,000 in 1880 (massive migration due to decline in raw silk industry and sectarian fighting in Damascus and Mount Lebanon).

	Social dynamics of residential growth	Physical expansion and residential typology
Center	Continuing residential migration towards the periphery.	Increasing commercial and administrative centralization and port enlargement.
Periphery and Outskirts	Second suburbanization movement initiated by the upper bourgeoisie towards the hill sites of Quirat and Rmeil. Four upper bourgeois quarters: Irat, Rmeil, Zokak el Blatt and Minet el Hosn (old Beiruti families, rich migrants of urban origin, notable families from the mountains). Middle-status quarters: Saifé (Christians), Bachoura and Ghalghoul (mainly Muslims). Densification of Ras el Nabeh, Moussaitbé (Greek-Orthodox refugees from Damascus) and Rmeilé (Maronite refugees from the mountains).	City size increases 13 times, from around 150,000 m² in 1840 to 2,000,000 m² in 1876. Urbanization of the immediate periphery and the emergence of a second suburban belt with exclusive residential quarters. Maturation of the bourgeois suburban house (known mistakenly as the Lebanese house) with triple arches, red tile roofs, hybrid structure and imported construction materials (see Sehnaoui, 1981). Extension of Ras el Nabeh towards Bachoura, Moussaitbé towards Gemmayzet el Yammin and Mazraa, and Rmeilé towards Saifé.

TABLE 1.2

Panorama of Bachoura district, showing the three prevalent types of housing in the suburban zone:
- In the foreground, an upper-class mansion with a complex red tile roof and triangular pediments over windows.
- In the middle distance, flat-roofed farmhouses with surrounding gardens.
- In the background, the proliferation of cubic stone structures with red tile roofs showing the strong emergence of the bourgeois suburban house.

Source: Dumas, 1885, in Debbas, 1986, p.150.

Beirut 1876.
Urbanization of the periphery and emergence of a second suburban belt.

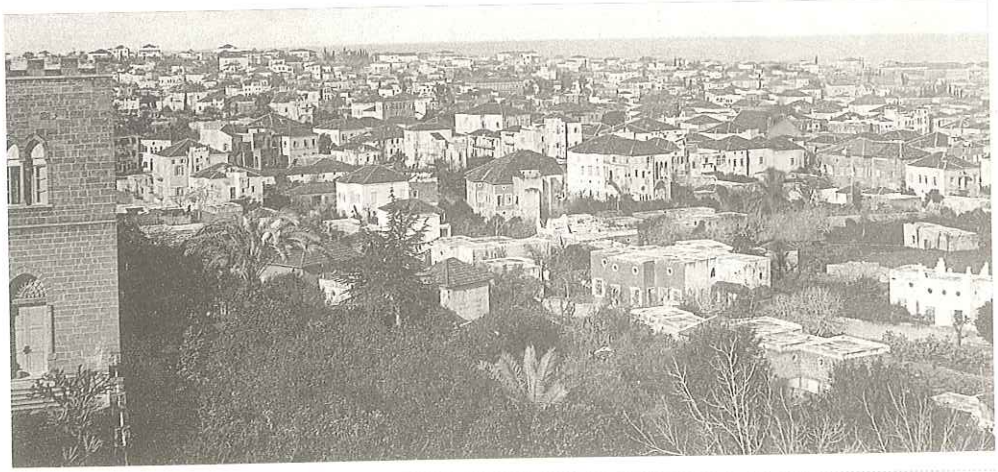
Source: J. Loytved.

1880-1920: From Urbanized Periphery to Urbanized Districts

Population reaches 130,000 (continuing migration mainly from the mountains).

	Social dynamics of residential growth	Physical expansion and residential typology
Center	Segregation between place of work (center) and place of residence (periphery).	Modernization of the center and extensive infrastructure improvement; construction of the new *souks*.
Periphery and Outskirts	The Ottoman designation of *mahala* (for *extra muros* districts) is replaced by *hayy* or *chari'*. Strong emergence of two middle-class districts east and west: Achrafiyé (salaried employees) and Ras Beyrouth (professionals). Moussaitbé, Mazraa and Ras el Nabaa mainly occupied by artisans. Peri-center districts (Saifé, Ghalgoul, Bachoura) with Ras el Nabeh and Basta predominantly inhabited by a petite bourgeoisie of small merchants and salaried employees.	Residential growth reaches a 2km radius from the city center. Construction of communal facilities (mainly hospitals and schools) in highly urbanized peripheral districts. Proliferation of baroque suburban mansions for the urban aristocracy and rich merchants (mainly in Irat and Rmeil). Emergence of the neo-traditional apartment house in middle-class districts.

TABLE 1.3



A panoramic view (1905) from the Collège Notre-Dame de Nazareth, showing the high density of pitched roof suburban houses, with remnants of farmhouses in the foreground.

Source: Debbas 1986: p.175.

Beirut 1920.

Source: Cadastral survey by the *Service Topographique de l'Armée.*

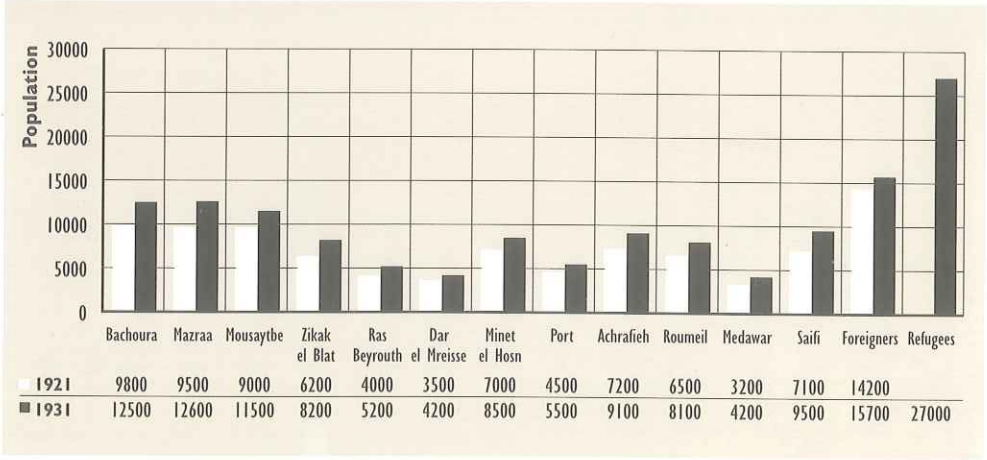
1920-1940: The Coalescence of Peripheral Districts

1932 population (official French census). Total 179,370 (including 14,554 foreigners) segregated as follows: 52,530 Sunni Muslims, 11,657 Shiite Muslims; 5,056 Druzes; 29,477 Maronites; 8,450 Roman Catholics; 20,072 Greek Orthodox; 3,697 Protestants; 18,664 Armenian Orthodox; 4,396 Armenian Catholics; 1,759 Syriac Orthodox; 2,246 Syriac Catholic; 989 refugees without nationality.

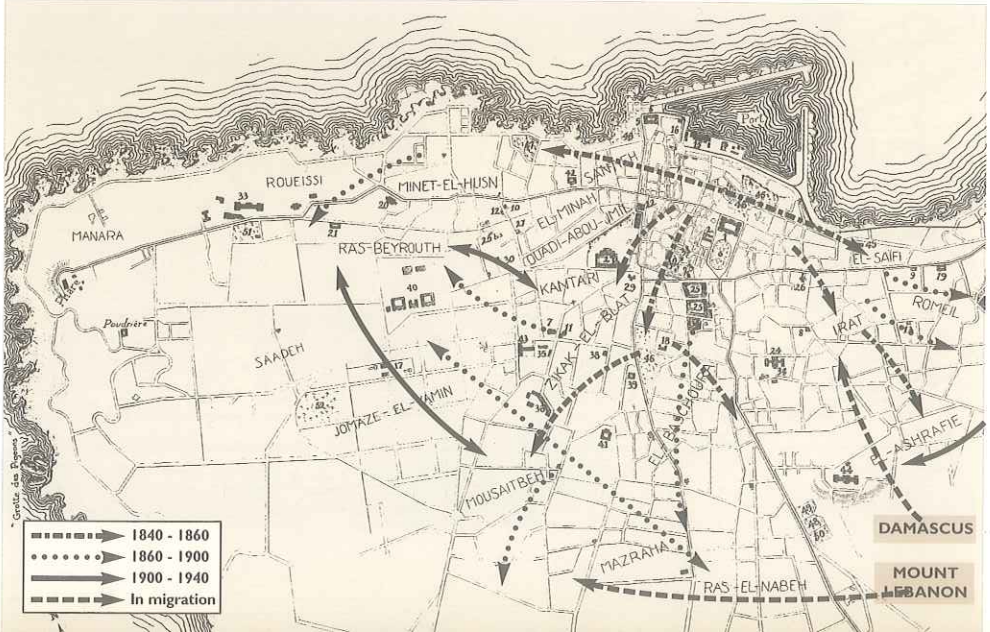
Continuing rural to urban migration and influx of refugees (mainly Armenians and Kurds).

	Social dynamics of residential growth	Physical expansion and residential typology
Center	Displacement of housing towards the periphery and consolidation of the "central business district" function.	Extensive restructuring of the urban fabric (see "Key Facts and Events").
Periphery and Outskirts	Consolidation and sectarian "homogenization" of peri-urban quarters. Rural migrants and refugees settle on the outskirts of the city according to their place of origin: - Migrants from the Chouf settle in Furn el Chebbak and Ain el Roummané. - Shiites from the south settle in Chiyah and Borj el Brajné. - Armenian refugees are assigned by the French authority to the quarantine area on the northeastern outskirts.	Residential areas double in surface size, filling in between districts: - East: Ghabé extends towards Achrafiyé and Rmeilé towards Saifé. - South: Ras el Nabeh extends along rue de Damas and Mazraa extends towards Moussaitbé. - West: Kantari, Ain el Mreissé and Ras Beyrouth extend towards each other. - Spread of concrete walk-up apartment buildings (see Sections 2 and 3), mainly in newly emerging quarters such as Achrafiyé and Ras Beyrouth and also in consolidating middle-status quarters such as Saifé and Bachoura.

TABLE 1.4



Graph representing the increase in population by district between 1921 and 1931 (after Plan Danger); spelling of names of districts is kept as in original document.



Residential expansion dynamics between 1840 and 1940 (after Davie, May 1993, p.81-98), modified.

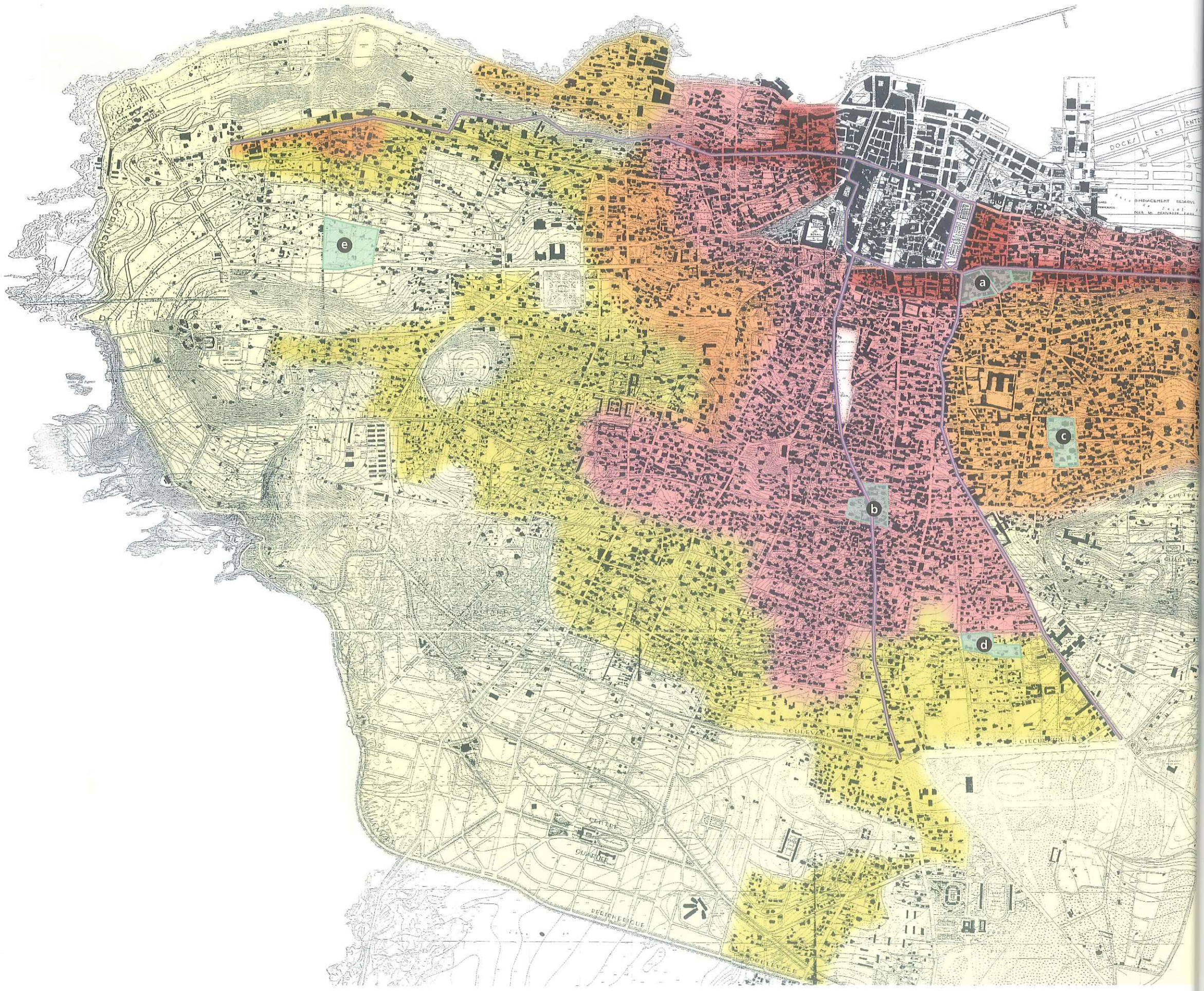
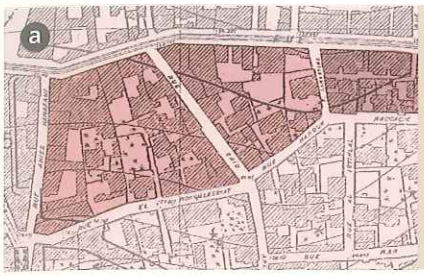

a
b
c
d
e

FIG 1:
BEIRUT 1930, PATTERNS OF RESIDENTIAL GROWTH



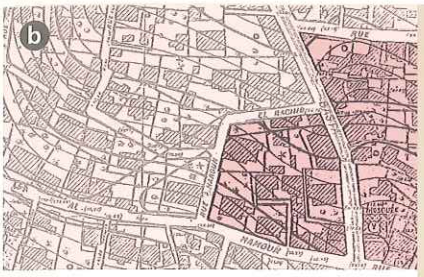
Urban

Compact/street-related (peripheral block) development

Small to medium-size lots with high surface exploitation

Small to medium-size building footprints

Surface exploitation refers to plot ratio (built-on area / parcel area).



Peri-Urban

Evenly spread/lot-related development

Clearly defined urban layout (street, block and parcellation pattern)

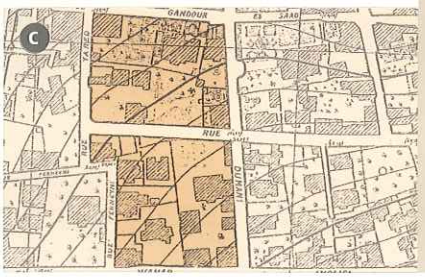
Small to medium-size lots with medium surface exploitation

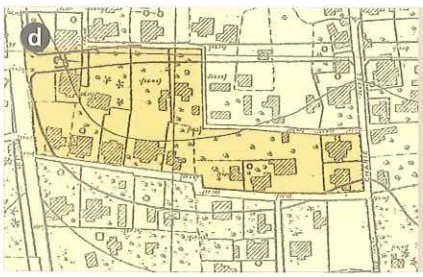
Varying size of building footprints

ⓑ Coarse grain = medium to large units on medium-size lots

ⓒ Fine grain = small units on small-size lots

Lot-related development refers to free-standing structures with setback from street and lot boundaries, as opposed to street-aligned development with party walls.





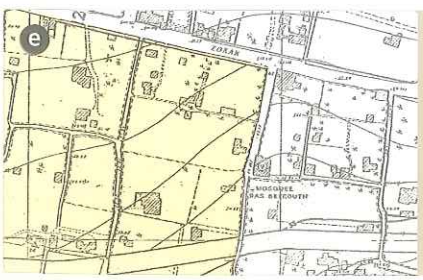
Sub-Urban

Irregular/lot-related development

Clearly emerging block and parcel layout

Medium to large-size lots, with low surface exploitation

Varying size of building footprints



Rural

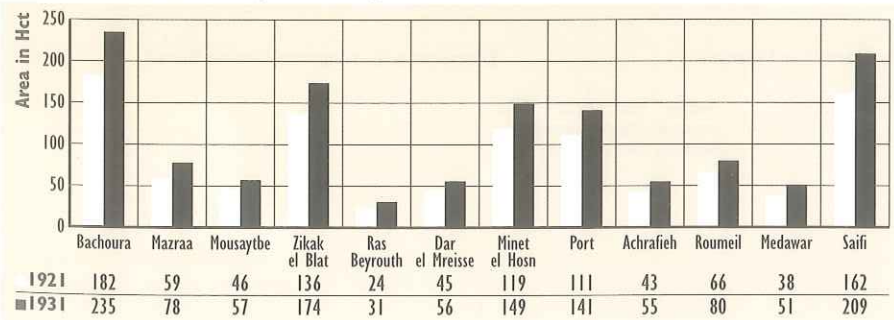
Scattered development

Non-defined street and block pattern

Large plots defined by footpaths

Predominantly small-size building footprints

Residential Development by District (Plan Danger)



Base Map

Source: Plan Danger, 1932, by the *Société des Plans Régulateurs de Villes*, Danger Frères, Urbanistes; over cadastral plans established between 1928 and 1930 by the *Régie du Cadastre et d'Amélioration Foncière des Etats de Syrie, du Liban et des Alouites.*

Reproduction from individual sheets (scale 1/2000) pasted together, then reduced; building footprints filled with black for legibility.

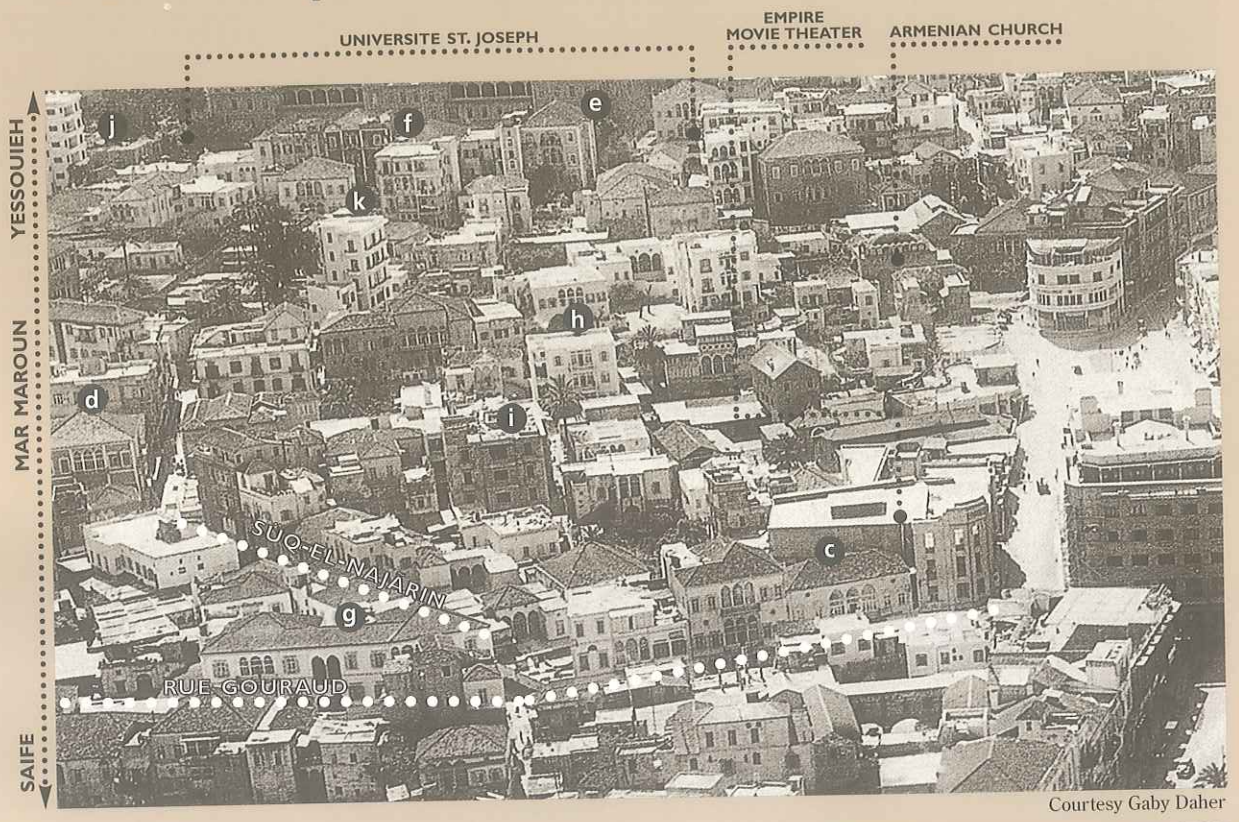
Residential Morphologies and Townscapes: urbanized peri-center zone

MAR-MAROUN

Middle to lower status Christian quarter, predominantly Maronite, with mixed residential, commercial and craft-industrial uses, known as souk el Najarin (concentration of carpenters' workshops and hardware/furniture stores along rue Said Akl).

Compact and saturated urban layout [a,b], typical of turn-of-the-century residential districts, with narrow streets; irregular block and parcel structure; medium to small-size lots; high plot ratio (built-on area divided by parcel area); and peripheral block development following street alignment.

Residential townscape characterized by the absence of freestanding structures and the predominance of traditional stone houses with red tile roofs [c,d], either extended vertically in the proximity of the Université St. Joseph, the Yessouieh quarter [e,f], or horizontally along main arteries like rue Gouraud [g]. Concrete walk-up apartment houses [h,i] fill the inner district blocks, showing a progressive saturation from the periphery towards the inside. Early modern apartment buildings are already evident [j, k], mainly on remaining small and medium-size parcels.



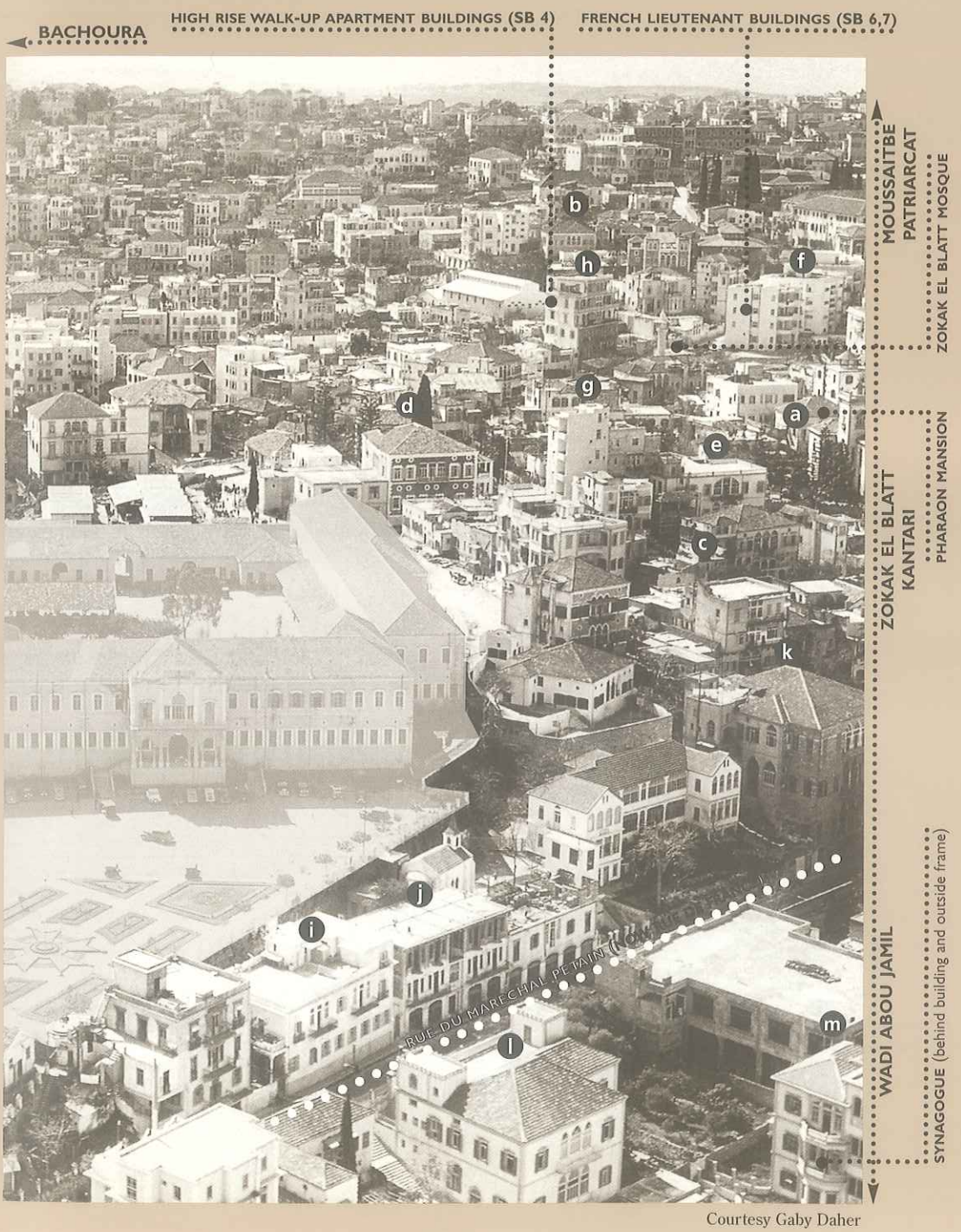
Courtesy Gaby Daher

Districts adjoining the Place des Martyrs

Districts adjoining the Grand Sérail

Source: Plan Danger, 1932, over cadastral plans established between 1928 and 1930.

Residential Morphologies and Townscapes: urbanized peri-center zone



Courtesy Gaby Daher

ZOKAK EL BLATT - KANTARI

Mixed upper status residential area, predominantly Sunni, with concentration of missionary schools.

Irregular street and block structure conditioned by complex hill-top topography of Grand Sérail; small to medium-size parcels; remnants of suburban lots with freestanding structures; medium to high lot coverage with irregular building footprints.

Residential townscape typical of 19th-century garden suburbs undergoing a fast process of urbanization and real estate speculation; characterized by a wide range of residential types from upper class mansions [a] to suburban villas [b] to traditional apartment houses [c,d] to emerging walk-up apartment buildings, including low-rise [e], mid-rise [f] and high-rise [g,h] structures.

WADI ABOU JAMIL

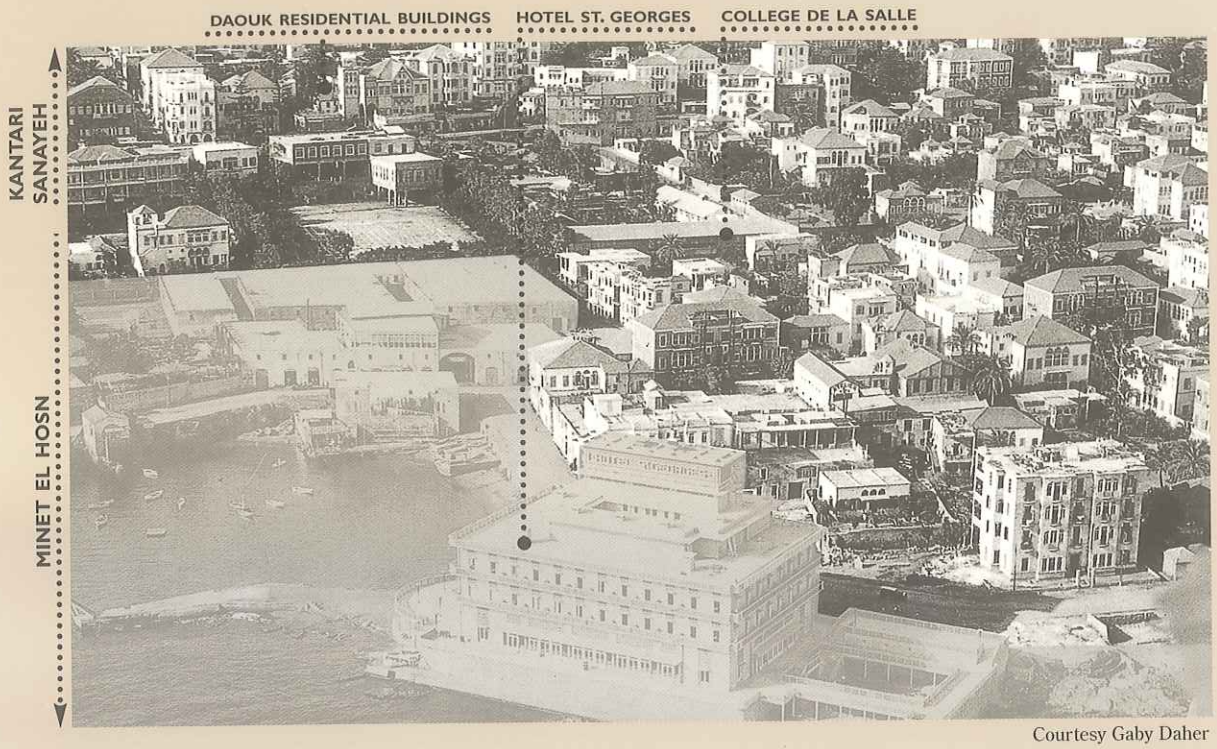
Mixed middle to upper status residential district, predominantly Jewish, with concentration of missionary schools and consulates. Townscape includes concrete residential structures encroaching on Grand Sérail's steep slopes [i,j], with traditional apartment houses extended vertically [k], suburban villas [l] and upper status concrete apartment houses [m].

Residential Morphologies and Townscapes: the peri-urban and sub-urban zone

MINET EL HOSN

Mixed upper status residential area

Peri-urban townscape in transition with predominantly middle-size lots and traditional central-hall houses with gardens. In the background, avenue Perthuis, in continuity with avenue Georges Picot, is a main transportation artery with tramline leading to Manara. On both sides it generated a linear development, including both institutional buildings (e.g., Collège de la Salle and Hôpital St. Charles) and multi-storey walk-up apartment buildings (Daouk twin buildings). In the foreground, two structures point out the end of the eclectic period in architecture and the future vocation of Minet el Hosn: a concrete walk-up apartment building under construction and the early modern/Perret style Hôtel St Georges.



Courtesy Gaby Daher

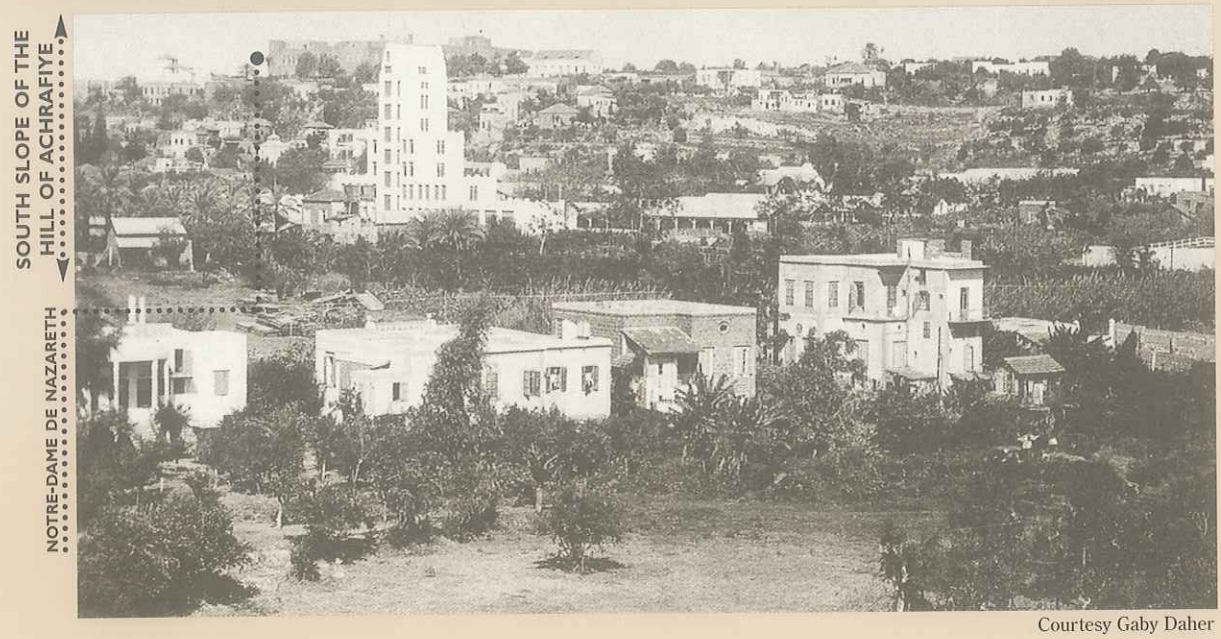
South slope of the hill of ACHRAFIYE

Sub-urban / rural townscape with large plots of agricultural land and scattered development.

In the foreground, a row of farmhouses and newly built suburban concrete structures;

In the middle distance, agricultural terraces and small houses with red tile roofs typical of a mountain village landscape; intrusion of a tall modern concrete structure expressing the predominance of institutional uses along the periphery of rue de Damas.

In the background and on top of the hill, the Collège de Notre-Dame de Nazareth which will act as a main pole of attraction for residential development in Achrafiyé.



Courtesy Gaby Daher

BOX 1.2

INVESTIGATING PRE-1940 BEIRUT RESIDENTIAL DEVELOPMENT

Until now, attempts at defining the growth of residential Beirut before Independence relied on three complementary methods: 1- field reconnaissance by contemporary observers (Thoumin, 1936), 2- comparative analysis of historical maps (De Vaumas, 1946; Khalaf and Kongstad, 1973; Michael Davie, 1987) and the study of official registries (May Davie, 1987, 1993, 1996). With the publication of historical photographs dating back to the last quarter of the nineteenth century (Debbas, 1986; Daher, 1994), an additional method became available; i.e., the interpretation of historical townscapes as three-dimensional evidence of "vertical" land occupation and prevalent architectural typologies.

Comparative map analysis, still the cornerstone of any study of urban development, has two main shortcomings in the case of Beirut:
1- The lack of correspondence between pre-cadastral and cadastral maps (available only after 1920).
2- The definition of precise criteria for the delimitation of urban areas.

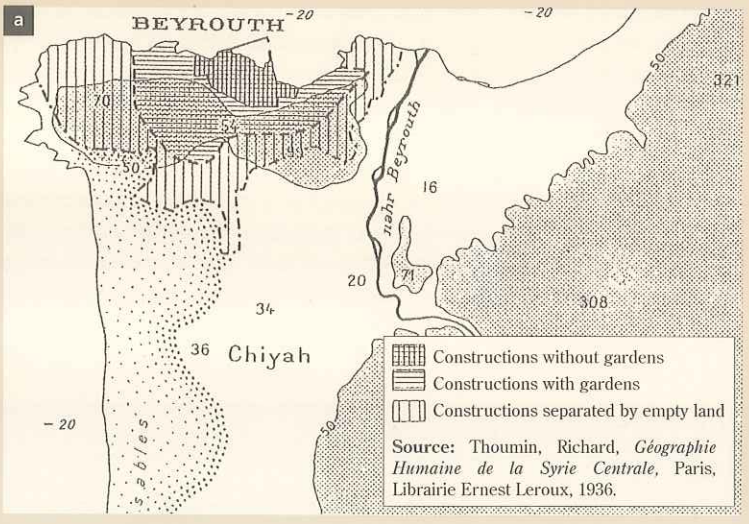
As mentioned by Thoumin :"Le développement de la plupart des cités conserve son histoire inscrite dans le plan des rues: c'est plutôt la densité des immeubles qui donne ici des indications de l'extension de la ville."* He therefore established three simple categories of land occupation to determine and qualify the extent of the built-up area: 1- constructions without gardens, 2- constructions with gardens, and 3- constructions separated by empty land [a]. On the other hand, De Vaumas took the extension of the road network as a key indicator of urban growth by checking the progressive transformation of pathways into streets on successive historical maps [b]. Khalaf and Kongstadt, who studied a restricted area (Hamra district), relied on precise calculations of "the intensity of utilization of land" (plot ratio, floor ratio and extent of parcellation) to measure the impact of residential and commercial invasions on physical urbanization. Finally, May Davie studied the *wirkou* documents (Ottoman real estate tax) on a quarter by quarter basis to determine the socioeconomic profile and residential mobility of the urban population before 1940 [Table 1.4].

For this study, the 1930 cadastral maps (which formed the background of Plan Danger) were used to analyze the changing urban morphology of residential areas from center to periphery, comparing samples of "residential fabrics" [Fig.1]. Generators and shapers of urban growth, such as topography, transportation corridors, poles of attraction (e.g., universities and schools), were then investigated to determine the areas and lines of concentration of residential structures. Finally, the 1930s oblique photos and street views were utilized for a three-dimensional interpretation of urban residential patterns (see "Residential Morphologies and Townscapes").

Still, a serious effort is needed to precisely date the diverse elements of the townscapes, from infrastructure to buildings, and to synthesize the current findings in a comprehensive map of residential growth that takes into consideration the physical, socio-economic and political factors responsible for shaping the pre-independence city development.

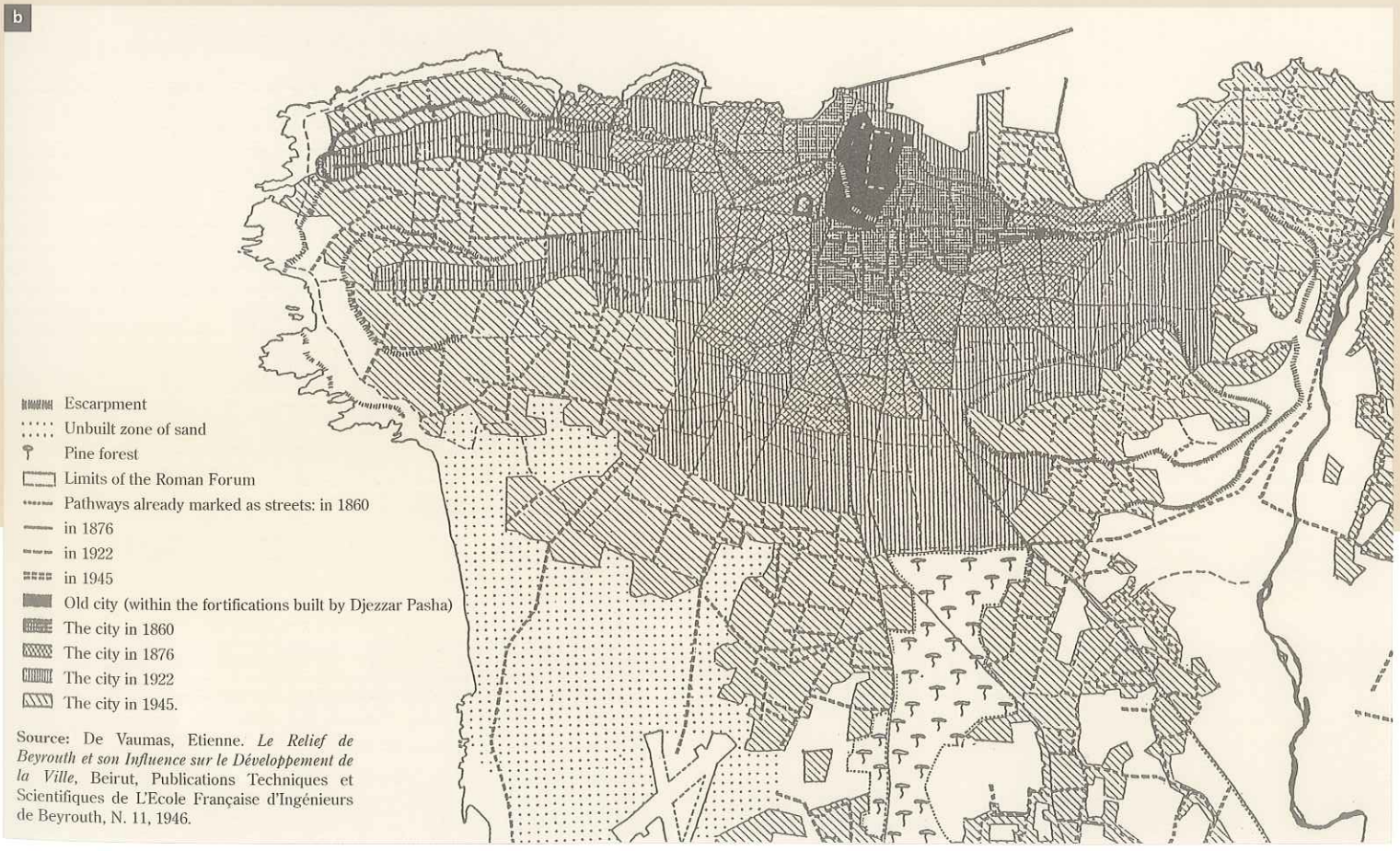
*The history of the development of most cities is preserved in their street plan. Here, it is rather the density of buildings that indicates the extension of the city (Thoumin, 1936, p.320).

a



Source: Thoumin, Richard, *Géographie Humaine de la Syrie Centrale*, Paris, Librairie Ernest Leroux, 1936.

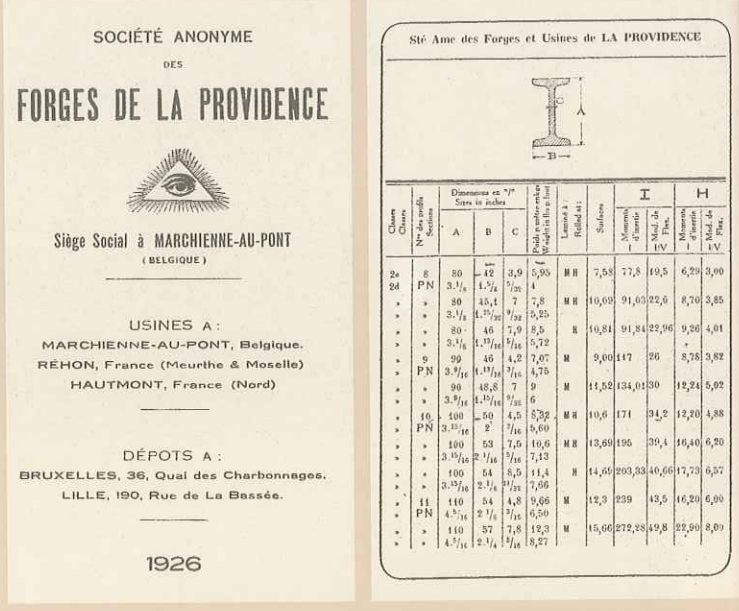
b



Source: De Vaumas, Etienne. *Le Relief de Beyrouth et son Influence sur le Développement de la Ville*, Beirut, Publications Techniques et Scientifiques de L'Ecole Française d'Ingénieurs de Beyrouth, N. 11, 1946.

BOX 2.1

IMPORT OF MACHINE-AGE CONSTRUCTION MATERIALS



SOCIÉTÉ ANONYME

DES

FORGES DE LA PROVIDENCE

Siège Social à MARCHIENNE-AU-PONT

(BELGIQUE)

USINES A :

MARCHIENNE-AU-PONT, Belgique.

RÉHON, France (Meurthe & Moselle)

HAUTMONT, France (Nord)

DÉPOTS A :

BRUXELLES, 36, Quai des Charbonnages.

LILLE, 190, Rue de La Bassée.

1926

Sté Ame des Forges et Usines de LA PROVIDENCE

Chiffre Cipher	N° des profils Section	Dimensions en m/m Sizes in inches A	B	C	Poids m/m-courant Weight in lbs a foot	Laminé à : Rolled at :	Suivies	I Moments d'inertie	I Mod. de Plas. I/V	H Moments d'inertie	H Mod. de Plas. I/V
24	8	80	42	3,9	5,95	MH	7,58	77,8	19,5	6,29	3,00
24	PN	3.1/8	1.5/4	5/32	4						
»	»	80	43,1	7	7,8	MH	10,09	91,03	22,6	8,70	3,85
»	»	3.1/8	1.23/32	9/32	5,25						
»	»	80	46	7,9	8,5	M	10,81	91,84	22,96	9,26	4,01
»	»	3.1/8	1.13/16	5/16	5,72						»
»	9	99	46	4,2	7,07	M	9,00	117	26	8,78	3,82
»	PN	3.9/16	1.13/16	5/16	4,75						
»	»	90	48,8	7	9	M	11,52	134,01	30	12,24	5,92
»	»	3.9/16	1.15/16	9/32	6						
»	10	100	50	4,5	8,32	MH	10,6	171	34,2	12,20	4,88
»	PN	3.15/16	2	3/16	5,60						
»	»	100	53	7,5	10,6	MH	13,69	195	39,4	16,40	6,20
»	»	3.15/16	2.1/16	3/16	7,13						
»	»	100	54	8,5	11,4	M	14,69	203,33	40,66	17,73	6,57
»	»	3.15/16	2.1/8	11/32	7,66						
»	11	110	54	4,8	9,66	M	12,3	239	43,5	16,29	6,00
»	PN	4.5/16	2.1/8	3/16	6,50						
»	»	110	57	7,8	12,3	M	15,66	272,28	49,8	22,90	8,09
»	»	4.5/16	2.1/4	5/16	8,27						

Excerpts from a 1926 wrought-iron trade catalog, showing on the opening page three different manufacturing locations for the "Forges de la Providence" both in France and Belgium, with specification sheets for I-beams used in Beirut's neo-traditional houses and apartment houses. The catalog also includes a photographic section with pictures of the foundries and the iron-rolling process and another section for "general conditions for sale" for international distribution, translated in English, Italian and Spanish.

Source: Archives of Negib G. Araman.

chapter 2

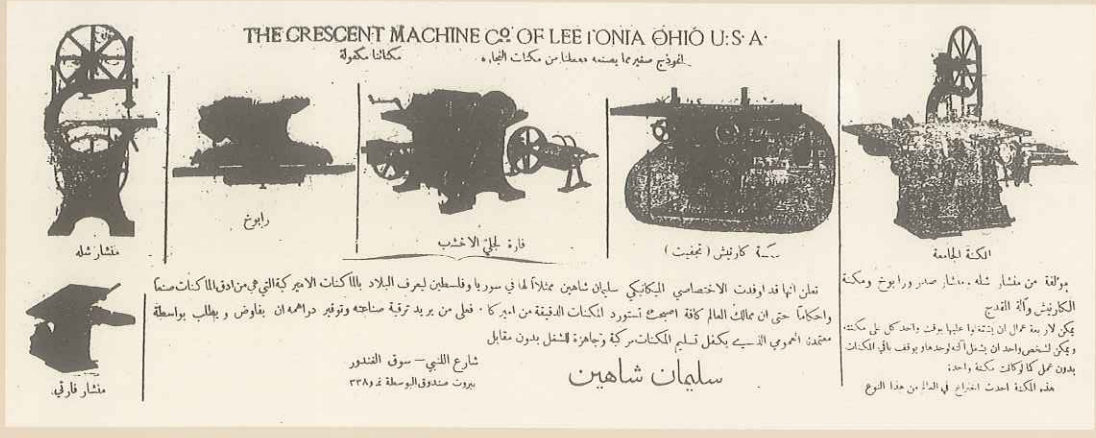
Building Technology and Design Practice

The import of mass-produced construction materials from Europe increased during the second half of the nineteenth century, leading to a gradual change of domestic building form and structure. From a **preindustrial** type relying on local building materials, the "modern" Beirut house of the second half of the nineteenth century emerged as a **hybrid** suburban structure integrating wrought-iron I-beams and roof tiles from France, mechanically sawn timber from Romania, cast-iron balustrades and hardware from England and marble tiles from Italy. By the turn of the twentieth century most building components were imported from Europe [Box 2.1]. However, the most dramatic change occurred during the first quarter of the century, when cement was gradually incorporated in domestic construction, first through importation, then through local manufacturing (starting in 1931). This change was accompanied by a theoretical knowledge of reinforced concrete, formally introduced in university education, both at the American University of Beirut and the Université St. Joseph. Civil engineering emerged for the first time as an independent profession and as a new field of specialization in a sphere of practice previously confined to established building crafts. However, due to its malleability and predilection for imitation, concrete was soon appropriated by the builders themselves as a "new vernacular" tradition. Accordingly, this section will elaborate on the effect of technological change and Western penetration on Beirut domestic architecture between the two world wars, emphasizing the impact of the cement industry and concrete construction on fostering the hybridization of architectural form and the proliferation of eclectic ornamentation. It will also investigate the path that was followed by the first generation of design professionals who ensured the transition from stone to concrete construction.

Nada Sehnaoui, *L'Occidentalisation de la Vie Quotidienne à Beyrouth*, 1860-1914, Mémoire de Maîtrise, Université de Paris X– Nanterre, Paris, 1981, pp.86-100. Interview with Georges N. Araman & Salah Itani.

محلات فسطنطين فرن في بيروت
خان انطون بك — الوكيل الوحيد في الشرق
لشوفبان ماركة الفولكان المحماة
المشهورة بجودتها ومتانتها وسهولة استعمالها لتدفئة
الحمامات بتسخين المياه في غرف
في وقت واحد

موجود عندنا بصورة دائمة جميع لوازم الحمام من زنابه ارتفيل احسن
ماركة مكفولة الباطون وكاس وقرميد وبلاط قرميد وطوب مجلش وقرميا
زاز وحديد جسورة وحديد مبروم وحديد مربعي ونونيا وكميات كبيرة من
بلاط الرخام الذي نتخصر من اكبر معامل ايطاليا مع البلاط الموزاييك . كذلك
موجود عندنا بصورة دائمة كافة انواع الادوات الصحية مثل مغاسل مجالي وبيدال
وكراسي مشوعة كلها بورسلان من احسن جنس وما يتبع ذلك من حنفيات
مختلفة وحنفيات كهربائية لزوم الحمامات وبيوت الخلاء وجميع ذلك باسعار معتدلة
ومن يشرف محلنا بزيارته



THE CRESCENT MACHINE Co. OF LEE I'ONIA OHIO U.S.A.
مكائنا مكفولة
نموذج صغير عما يصنعه معملنا من مكنات النجارة

رابوخ
فارة لجلي الاخشاب
مكنة كاربنتر (نجفيت)
المكنة الجامعة
منشار شله
منشار فارقي

تعلن انها قد اوفدت الاخصائي الميكانيكي سليمان شاهين ممثلاً لها في سوريا وفلسطين ليعرف البلاد بالمكائنات الاميركية التي هي من اتقن المكائنات صنعاً واحكاماً حتى ان ممالك العالم كافة اصبحت تستورد المكنات الدقيقة من اميركا . فعلى من يريد ترقية صناعته وتوفير دراهمه ان يقابض و يطلب بواسطة معتمدنا الحضوري الذي يكفل تسليم المكنات ركبة وجاهزة للشغل بدون مقابل

شارع اللنبي — سوق الفندور
بيروت صندوق البوسطة نمرة ٣٣٨

سليمان شاهين

المكنة من منشار شله ومنشار صدر ورابوخ ومكنة الكاربنتر وآلة القدوح
يمكن لاربعة عمال ان يشتغلوا عليها بوقت واحد كل على مكنته
ويمكن لشخص واحد ان يشغل آلة لوحدها او يوقف باقي المكنات
بدون عمل كما لو كانت مكنة واحدة
هذه المكنة احدث اختراع في العالم من هذا النوع

Dependency on mass-produced materials imported from Europe covered most components of domestic buildings.
A 1928 advertisement in Lisan al Hal promotes cement, iron bars and I-beams for superstructure; marble tiles and mosaic tiles for flooring; metal sheets and red tiles for roofing; sanitary equipment and fixtures, besides appliances for central water heating.

Source: Lisan al Hal, April 18, 1928, p.6.

Mechanization of woodworking for furniture and building components was also spreading as early as the second decade of the century.
A 1922 advertisement promotes the quality of American woodworking machinery and mentions the availability of a local mechanical specialist representing the firm in Syria and Palestine.

Source: Lisan al Hal, December 17, 1922, p.4.

From Sandstone to Concrete: Early Days of the Cement Industry

By the turn of the century, cement production and concrete construction were already established as an integral part of the European building industry, due to the pioneering empirical role played by the British, the theoretical knowledge contributed by the French and the improvement of production methods introduced by the Germans.

Guedes, Pedro (ed), *Encyclopedia of Architectural Technology*, McGraw-Hill Book Company, New York, 1979, pp.255-257.

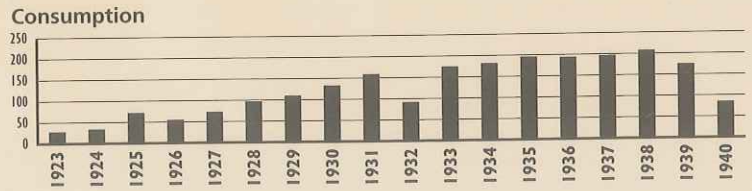
Auguste Perret built his first concrete building in 1890, while Le Corbusier's Dom-ino project with its standard column-and-slab frame was proposed in 1914. However, this high style/modernist approach was confined to the narrow avant-garde circle of leading engineers and designers. Concrete, as a standard construction material in domestic architecture, was perceived by builders and the public at large as "artificial cast stone", fit to reproduce, economically, various historical styles. Beirut followed this trend, starting in the first decade of the century. By 1920, imported cement, mainly from France, progressively invaded the various components of residential buildings, first through the reproduction of the established architectural language, then through the importing of revival styles. Between 1923 and 1930, consumption of imported cement increased about five times in the Levant states of Lebanon and Syria [2.1]. Since this increase may not be accounted for by infrastructure projects alone and since Mandate domestic architecture in Syria was mainly limited to stone, it may be inferred that concrete consumption was absorbed by the residential growth of Beirut during the 1920s and 1930s. The field survey conducted of the peri-center districts (Section 3) confirms that the final transition from traditional apartment houses to concrete apartment buildings occurred in the 1920s, with an accompanying boom in residential construction [2.2].

Observation deduced from field reconnaissance visits to Damascus and Aleppo. The establishment of a cement plant at Dummar (on the outskirts of Damascus) in 1937 may have encouraged the penetration of concrete construction in domestic architecture starting in the 1940s.

The fast growth in cement imports between 1923 and 1929 stimulated the creation of the first cement plant in the Levant states. The *Société des Ciments Libanais* was established in 1929 through a joint French /

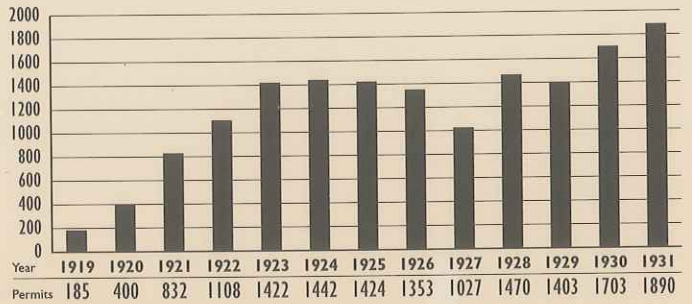
FIG 2.1
PRODUCTION, IMPORT AND CONSUMPTION OF CEMENT
The Levant States of Syria and Lebanon, 1923-1940 (in thousands of tons)

Year	Production	Import	Export	Apparent Consumption*
1923		28		28
1924		34		34
1925		72		72
1926		55		55
1927		73		73
1928		97		97
1929		110		110
1930		133		133
1931	10	149		159
1932	47	147	2	192
1933	64	113	2	175
1934	107	79	4	182
1935	133	78	15	196
1936	194	29	29	194
1937	250	12	65	197
1938	251	6	49	208
1939	222	3	50	175
1940	91	3	9	85



* Apparent Consumption = Production + Imports - Exports

FIG 2.2
CONSTRUCTION PERMITS DELIVERED BETWEEN 1919-1931



Source: Plan Danger. *Rapport d'Enquête et Justificatif*, 1932

Table adapted from Fouad el-Farra,
The Cement Industry in Lebanon.
Master of Business Administration thesis, Department of Business Administration, American University of Beirut, Beirut, 1969, p.38.

Source: The production figures for the Levant states of Syria and Lebanon during the period 1932-1938 are compiled from *Bulletin Economique Trimestriel* 1932-1938. For the period 1939-1940, they were obtained from the Administration of General Statistics at the Ministry of National Economy, *Receuil des Statistiques Générales 1947-1948*. The import and export figures are from Cembureau, *World Cement Market in Figures*, p.50; and for 1938-1940 from Conseil Supérieur des Intérêts Communs, Douane de la Syrie et du Liban, *Statistique du Commerce Extérieur du Liban et Syrie*.

Lebanese private venture and at the initiative of the Archbishop of Tripoli, Monseigneur Arida, who was attempting to reverse the rural to urban migration from north Lebanon to Beirut. "Just as world economic conditions were falling apart, the *Société des Ciments Libanais* started operating in 1931. The cement's apparent consumption in the Levant states during the early years of the depression is observed to have increased substantially, reflecting the people's preference to invest in buildings rather than business enterprises or titles of money."

El-Farra, Fouad, *The Cement Industry in Lebanon*, thesis, Master of Business Administration, Department of Business Administration, American University of Beirut, Beirut, 1969, pp.36-37. The observation about preferential investment in buildings is attributed by el-Farra to George Hakim, "Industry in the Economic Organization of Syria", Saïd Himadeh (ed.), Beirut, 1936, p.157.

The production of cement had an important impact on the inception of a local building industry based on the mass production of cement-based construction materials. Starting in 1930, leading merchant houses, such as Nagib Araman and Darwiche Haddad, changed progressively from import to industry through the establishment of their own lines of local manufacturing based on foreign certificates. Attempts at the production of concrete blocks were inspired by Western models and were soon applied. Early moulds were even patented. Meanwhile, foreign-educated designers such as Antoine Tabet introduced "artificial stone", less as an imitation of traditional masonry and more in the spirit of precast elements for modern construction.

Interview with Georges N. Araman, owner of N.G. Araman & Co.; see also *l'Orient*, Sept. 26, 1957, for the early attempts of Negib Araman (1868-1854) at manufacturing cement pipes and hollow blocks.

Builders vs Design Professionals: Emergence of the Engineering Profession

While local manufacturing of cement established concrete as a standard material for construction in the states of the Levant, universities introduced the related theoretical knowledge through engineering education [Fig.2.3]. In parallel to the degree of Bachelor of Arts in Engineering offered by the American University of Beirut, the Université St. Joseph initiated in 1913 a four-year program leading to a Diplôme d'Ingénieur (interrupted by the World War I). Sixty *diplômés* (partly Syrians) graduated between 1922 and 1929 from the *Ecole Française d'Ingénieurs de Beyrouth*, and another 126 between 1930 and 1939. Although engineering

In 1947, it was replaced by the *Ecole Supérieure d'Ingénieurs de Beyrouth*.

FIG 2.3
THE SYRIAN PROTESTANT COLLEGE: LIST OF ENGINEERING COURSES FOR THE ACADEMIC YEAR 1915-1916.

C 1	Topographical Drawing	First Year Engineering, required, 2 hrs, 1st term.
C 2	Plotting	First Year Engineering, required, 2 hrs, 2nd term.
C 4	Applied Mechanics	First Year Engineering, required, 3 hrs, 2nd term; Strength of Materials.
D 12	Mechanical Drawing	Second Year Engineering, required, 2 periods of 2 hrs, 2 terms.
D 3	Mechanism	Second Year Engineering, required, 2 hrs, 1st term; Wood, Kinematics of Machinery.
D 4	Thermodynamics	Second Year Engineering, required, 2 hrs, 2nd term.
D 5	Shop Work	Engineering, required, 6 weeks, summer between First and Second years.
E 12	Rural Engineering Design	Third Year Engineering, required, 3 sessions of 2 hrs, 2 terms.
E 3	Hydraulics	Third Year Engineering, required, 3 hrs, 1st term.
E 4	Hydraulic and Sanitary Engineering	Third Year Engineering, required, 3 hrs, 2nd term.
E 5	Materials of Construction	Third Year Engineering, required, 1 lecture and 1 laboratory period of 2 hrs, 1st term.
E 6	Testing of Materials	Third Year Engineering, required, 2 periods of 2 hrs, 2nd term.
E 7	Highway Engineering	Third Year Engineering, 1 hr, 1st term.
E 9	Theory of Structures	Third Year Engineering, 3 hrs, 1st term.
E 10	Reinforced Concrete	Third Year Engineering, 3 hrs, 2nd term.
E 11	Foundations	Third Year Engineering, 3 hrs, 1st term.

A required course in reinforced concrete (E10) is part of the curriculum. Faculty includes Joseph F. Aftimus [1869-1952, better known as Yussef Bey Aftimus, architect of the Grand Théâtre and Beirut Municipality building; listed as "B.A., C.E., Lecturer in Engineering"].

Source: Statement of the Syrian Protestant College, 1915-1916, Beirut, 1916, pp.7,36

"As early as 1913 the American University of Beirut recognized the need for engineering education in the Arab World and, consequently, a program leading to the degree of Bachelor of Arts in Engineering was established within the School of Arts and Sciences. The courses offered were in the field of Civil Engineering, and were covered during the Junior and Senior years... . By 1944, sufficient additional courses had been added to permit conferment of the degree of Bachelor of Science in Civil Engineering. The first class in this program graduated in June 1945 and the last class in June 1954. By that time, a separate School of Engineering had been established in June 1954...". Raja A. Iliya and Albert A. Kuran, "The Faculty of Engineering and Architecture, American University of Beirut: the History of Its Development, the History of the Faculty", *Al Kulliyah*, N^{os} 3 & 4, 1990, Summer-Autumn Issue, p.4.

education was initially intended to prepare a new breed of specialists who could forward the industrial development of the country, most of the early generations ended up as *bétonniers* or "concrete builders", a casual designation for practicing engineers mostly involved in building construction.

Interview with Joseph Najjar. Graduate of the Ecole Polytechnique in 1929, and the Ecole Nationale des Ponts Chaussées de Paris in 1931; professor of Civil Engineering at the Ecole Supérieure d'Ingénieurs de Beyrouth between 1932 and 1978; former President of the Order of Engineers and Architects between 1951 and 1957; former Minister.

Another category of professional designers, who participated in the residential boom of the 1920s and 30s, were the privileged few who received their education overseas, either in the United States (such as Bahjat Abdelnour, Yussef Aftimus, Salah and Faouzi Itani) or in France (such as Antoine Tabet, Farid Trad, Joseph Najjar). Most of them were entrusted with the design of major public buildings and new building types; their contribution to domestic architecture remained therefore limited (see following section for further details). The American-educated group showed a higher concern for a regional if not a local architectural identity. The Barakat building by Aftimus [Ch.6: 4] is a landmark of early transitional domestic architecture, with a hybrid structure integrating concrete with stone, and an "intermediate" architectural language neither Western revivalist nor Neo-Ottoman. On the other hand, the Paris-educated group that started practicing mainly during the 30s was far more impregnated by the modernist ideology. It broke all ties with the local context and attempted to transfer the new abstract concrete aesthetic from the French "metropolis" to the Levantine provinces.

Les ingénieurs, produit de l'occidentalisation, symboles de modernité par leur savoir scientifique, sont devenus un élément dynamique d'une nouvelle classe moyenne urbaine.

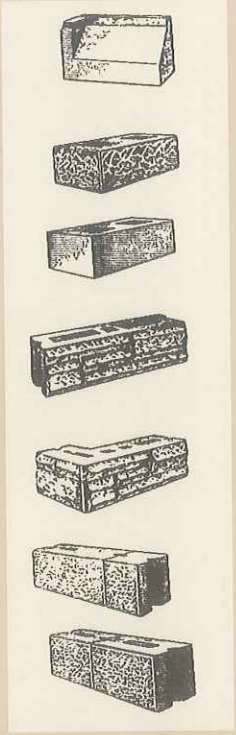
Engineers, a product of Westernization and symbols of modernity through their scientific knowledge, have become a dynamic element of the urban middle class.

David, Jean-Claude, «Ingénieurs, Urbanisme, et Pouvoirs Locaux à Alep» in *Bâtisseurs et Bureaucrates: Ingénieurs et Société au Maghreb et au Moyen-Orient*, Lyon, Maison de l'Orient, Études sur le Monde Arabe, N° 4, p.282.

Established municipality engineers may have been solicited by private clients for design work. At the turn of the century, they were already consulted by prominent families like the Beyhums, Sursocks and Bustros to upgrade key commercial areas such as souk el Jamil and souk el Nurieh. A notable example is Yussef Aftimus

Davie, May, *Beyrouth et ses Faubourgs: 1840-1940*, Beirut, Centre de Recherche d'Étude sur le Moyen-Orient Contemporain, 1996, pp.58-59.

BOX 2.2
IMITATION OF STONEWORK



"Precast concrete blocks imitating masonry building elements (late 19th century)".

Source: Guedes, Pedro (ed), *Encyclopedia of Architectural Technology. New York*, McGraw-Hill Book Company, 1979, p.25.

himself, who as city engineer was entrusted by the Ottoman Wali Rachid Bey to build the clock tower of the Grand Sérail. He later developed in parallel a successful design practice under the French Mandate.

Debbas, 1986, p.95.

Besides the local and Western-educated design professionals and municipality engineers, foreign architects also played an important role in Mandate domestic architecture. During the late nineteenth and early twentieth centuries, Italian architects were hired by the upper bourgeoisie to design exclusive suburban mansions. During the Mandate period, French architects may have predominated instead. Some of them worked during their military service as architect-archeologists (*Service des Antiquités, l'Institut Français d'Art et d'Archéologie Musulmane, IFAAM)*, while taking private commissions on the side. A known designer pertaining to this group was Lucien Cavro, who moved from Damascus to Beirut in 1930 and started his own design practice. He may have been responsible for the design of many residential buildings during the 1930s.

He was the architect of Henri Pharaon in 1927 and may have completed an oriental salon for a Sursock mansion during the same period (interview with Franck Fries at the *Institut Français d'Etudes Arabes de Damas)*. Cavro was also mentioned in interviews with Salah Itani, and Joseph Najjar.

Finally, the majority of domestic buildings may have been designed and executed by anonymous builders operating as designers/contractors, who acquired their skills through apprenticeship rather than through formal education. At the turn of the century, some of them were sent by rich patrons like the Sursocks to Italy to apprentice to Italian architects in order to take in hand the remaining construction work in big mansions. Accordingly, they were called by the name of the city they apprenticed in (e.g., the prestigious name of *muallem tuscani* for somebody trained in Tuscany). Equally regarded were the ones who worked in Istanbul *(called muallem istanbuli)*. They probably passed their trade to a second generation of builders, or practiced themselves during the 1920s and 1930s. They had their own catalogs, compiled from brown sheets of paper, on which they drew the different ornamental patterns they learned through observation, practice and travel. They would not repeat the same design twice in the same city quarter for two years. Known master builders included such names as Badrane, Wardini and Zoreik.

Interview with Pierre Ivanof, a longtime resident of Furn el Hayek and son of Leonid Ivanof, Russian émigré who worked with Duraffourd on Beirut's cadastre during the 1930s. Information about master builders is based on the accounts of his father and the builders themselves.

Cast-iron façade imitating stone in "the florid French Second Empire" style. Central bay design changes on each floor, from Palladian to triple arch with broken triangular and segmental pediments. Windows follow a related treatment. Old Gisley Hotel, 1200 Broadway, New York (1869, architect Stephen H. Hatch).

Source: Gayle, Margot and Gillon, Edmund V, *Cast-Iron Architecture in New York: A Photographic Survey*, Dover Publication, Inc. New York, 1974, p.166.
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Early Concrete Technology: Casting, Moulding and Pattern Books

By simply substituting "concrete" for "iron", the opposite quotation by Gayle and Gillon may thoroughly fit the 1920s and 30s concrete architecture in Beirut. Following the industrial revolution, both concrete and iron proved to be economical substitutes for stone-dressing and carving. Builders started emulating stonework through moulding and casting [Box 2.2], leading to the mass production of building elements that could be marketed far and wide in pattern books and trade catalogs [Box 2.3]. These catalogs played a central role in the diffusion and popularization of revival styles within the colonial metropolises and their provinces. Local retailers and representatives of foreign merchant houses in Beirut and elsewhere had easy access to such publications, which they used as a source of inspiration to start their own lines of local production.

> Virtually every architectural style was within reach. None was too bold or too delicate to be reproduced in iron, no decoration too intricate. Any desired shape could be recreated so long as the initial patterns could be carved and then pressed into damp sand to form sand moulds into which molten metal could flow.
>
> Gayle, Margot and Gillon, Edmund V., 1974, p.viii.

Since both iron and concrete imitated stonework, their catalogs could be used interchangeably. However, the main difference between the two resided in the building process itself. Whereas cast-iron construction could rely entirely on a "kit" of prefabricated elements, concrete structures were executed on site with a limited use of precast elements. How was this early concrete technology applied in Beirut? How were its complex ornamental features executed? How did local builders and manufacturers adapt imported design patterns to available materials and skills?

BOX 2.3

TRADE CATALOGS & ARCHITECTURAL ORNAMENTATION.

Excerpts from the 1990 trade catalog of Broschart & Braun, entitled *Ornamental Designs from Architectural Sheet Metal*. As stated in the opening notice of the catalog, designs were available in both zinc and copper. Other manufacturers advertised similar items in wood and cast concrete. Composite capitals [a,b] were widespread in Beirut during the 1920s following the emergence of reinforced concrete verandas. Brackets and consoles [c,d], garlands and festoons [e,f,g], even "concrete" rock facing [h] were all standard features of Beirut's Mandate architecture.

Source: Broschart and Braun. *Ornamental Designs from Architectural Sheet Metal*. The Athenaeum of Philadelphia and Dover Publications, New York, 1992, pp. 5, 7, 36, 55, 74.
Reprinted by permission.

The catalog's table of contents below, delineating the elaborate vocabulary of architectural ornamentation used at the turn of the century (mainly borrowed from the large repertoire of revival styles).

Angle Leaves
Balls
Balusters
Bead Enrichments Brackets
Bracket Fronts
Bracket Leaves
Bracket Rolls
Capitals
Cartouches
Center Pieces
Cheneau
Corbels
Cresting
Crockets
Curved Enrichments
Dental Frieze
Drapery
Drop Ornaments
Eagles
Egg & Dart Enrichments
Faces
Festoons
Finials
Fish Scale
Flames
Fleur de lis
Flute Enrichment
Foot Leaves
Friezes
Gargoyles
Garlands
Heads
Leader Straps
Leaves
Letters
Lion Heads
Modillions
Numbers
Ogee Enrichments
Panels
Ribbons
Rock Face
Rope Enrichments
Rosettes
Scrolls
Shells
Shields
Shingles
Soffit Rosettes
Sunbursts
Tiles
Tower
Truss Front
Tympanums
Urns
Vases
Volutes
Weather Vanes
Wreaths

Concrete Molding, Casting and Formwork

This section is based on interviews with Rustum al Buqayly, born in 1928, former master-mold maker at Katargi foundry, Beirut (now closed); Mohammad Khaled, tile-maker (al-Akkad tile factory, Tripoli); Naim Abdo al Homsi, owner of marble factory, Tripoli; Ibrahim el Naw, owner of a claustra factory, Tripoli; Kivork Maraashlian, owner of a cast-iron workshop, Bab el Charki, Damascus; Adel Mansour, owner of a cast-concrete workshop, al-Zablatani, Damascus.

Even corbels, or *zfurah*, may have been sold as precast building components.

Cast-iron molds started to be locally produced during the second half of the 1940s.

Sometimes sugar may have been added for smoothness and a crisp bluish color.

Concrete building components with or without surface ornamentation were either cast on site *(baton bi ardo)* or off site *(baton tarkib)*, depending on their size and their level of integration within the supporting structure.

On-site casting. Vertical structural elements, such as veranda columns with decorative capitals, were cast in sections from socle to shaft to capital. Spanning elements, with surface decoration, mouldings and cornice profiles, were cast in timber formwork shaped to reproduce the required protruding or recessed surface geometry. Window and door surrounds, portals with vases and concrete fences were also cast *in situ* using similar formwork.

Low-relief ornamentation was realized either by carving the inner surface of the formwork or by placing incised metallic sheets (usually tin or copper, chosen for their ductility). Armenian coppersmiths were renowned for such work. On the other hand, wooden moulds for both on-site and off-site casting were usually executed by "master carvers", or *haffarin*, who were trained as carpenters and furniture-makers.

Off-site casting. Small to medium size modular elements such as balusters, capitals and brackets were either cast and sold by tile manufacturers or custom-made in limited quantities for individual buildings. In both cases, wooden moulds were used. They consisted of two halves: a mould and counter-mould. Their inner surface was incised with the desired motif (referred to locally as *clasheh* from *cliché* in French); then it was painted with oil (olive oil and later engine oil) and slightly burned to facilitate the removal process after the setting of concrete. For an extra smooth finish with well-defined relief, the more expensive process of waxing was chosen. The concrete mix consisted of cement lime and beach sand *(raml bahri)*. Iron rods were used for reinforcement. Wooden moulds were carefully scraped and sanded in order to be reused. Such moulds were disposed of during the 50s and 60s, when iron moulds took over and low-relief ornamentation was replaced by flat geometric motifs and surfaces.

d

No.	Projection.	Depth.	Face.	Complete.	In parts.
183	19 in.	17 in	10 in.	$3.75	$2.55

No.	Projection.	Depth.	Face.	Complete.	In parts
123	19½ in.	7 in.	8 in.	$2.00	$1.30
124	18¼ "	8 "	8 "	1.90	1.20

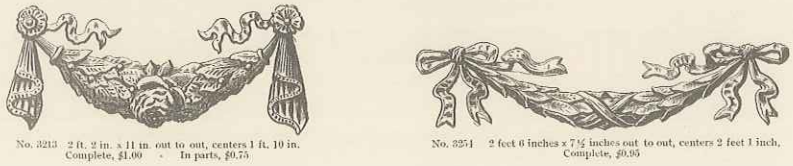
No.	Projection.	Depth.	Face.	Complete.	In parts
90	16½ in.	10 in.	10 in.	$2.15	$1.45

e

No. 3307 9 x 17½ in. Each, $0.55

No. 3247	8 in. wide.	Per foot, $0.30
" 3250	10 " "	" .35
" 3253	12 " "	" .40

f



No. 3213 2 ft. 2 in. x 11 in. out to out, centers 1 ft. 10 in. Complete, $1.00 In parts, $0.75

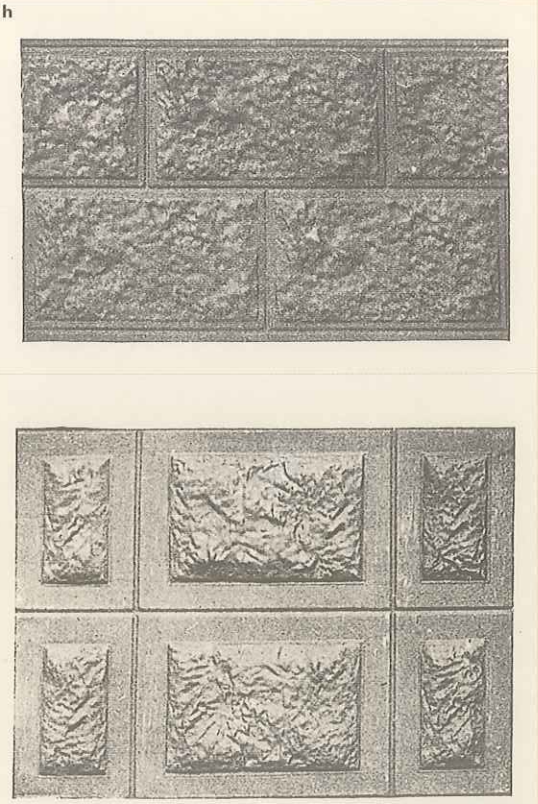
No. 3254 2 feet 6 inches x 7½ inches out to out, centers 2 feet 1 inch. Complete, $0.95

g

No. 3216 1½ x 25½ x 3½ in. Each, $0.27

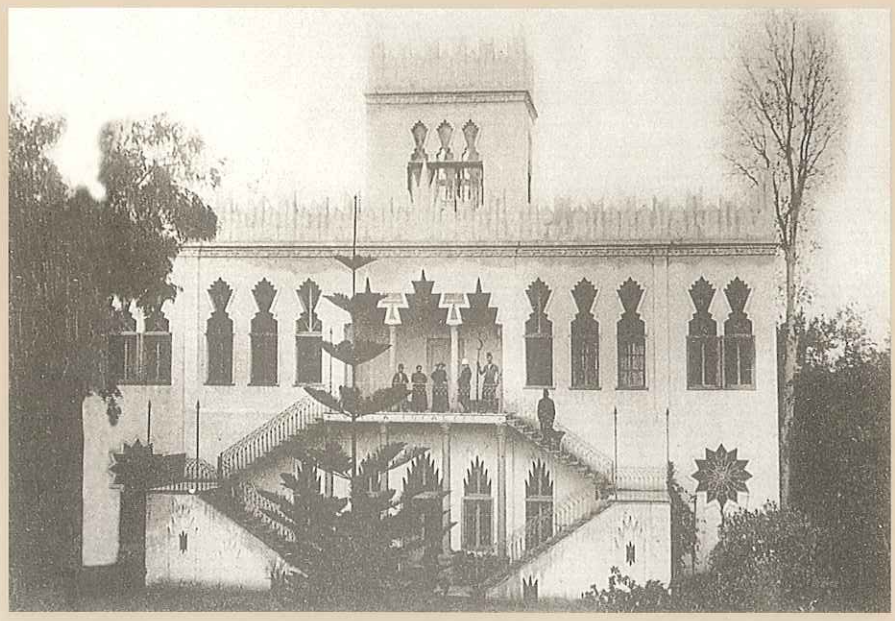
No. 3257 1 x 30 x 5½ in. Each, $0.36

h



BOX 3.1

EARLY SUBURBAN ECLECTICISM: UPPER BOURGEOIS FLAMBOYANCE AND ORIENTAL EXOTICISM



chapter 3

Cultural and Aesthetic Context

In Lebanon alone, the impact of the modern world arrived with grace, stage by stage, and often upon local invitation; and the accommodation to it also came gradually and with equal grace.

Salibi, Kamal, *A House of Many Mansions: The History of Lebanon Reconsidered*, London, University of California Press, 1988, pp.164-165.

Gowans, Alan, *Styles and Types of North American Architecture: Social Function and Cultural Expression*, New York, Harper Collins Publishers, 1992, p.xi.

Çelik, Zeynep, *The Remaking of Istanbul: Portrait of an Ottoman City in the Nineteenth Century*, Seattle, The University of Washington Press, 1986, p.137.

Hybridization of domestic architecture during the late nineteenth and early twentieth centuries was a general trend that pervaded both the metropolises of colonial powers and their "overseas" territories. This multifaceted and complex manifestation holds within its core the dialectic relationship between modernization and its twin phenomenon: cultural hegemony. If architecture is "politics in three dimensions", the dualism between tradition and modernism is clearly expressed in the "Western appliqué façades on traditional interiors" characterizing bourgeois residential buildings from Alexandria to Beirut to Istanbul. Architectural eclecticism in its diverse manifestations originated in the encounter of local cultures with the international system of exchange initiated by the industrial capitalism of nineteenth-century Europe. In the Levant, cross-cultural exchange and grafting followed the declining strength of relations between colonizing Europe, the weakening Ottoman Empire and the vast provinces occupying the bottom of the pyramid. Being the most advanced nineteenth-century capital at the intersecting point of East and West, Istanbul experimented firsthand with Western trends, then applied them selectively to the rest of the Empire. Beirut, as an emerging provincial center of Ottoman Syria, was therefore subject to "secondhand" Westernization via Istanbul, before its "firsthand" modernization by Paris under the French Mandate. Accordingly, its special blend of eclecticism can only be apprehended when viewed against these two currents of colonial cultural exchange, in terms of their "originating" metropoles (i.e., Paris and Istanbul) and their "receiving" provincial centers, from North Africa to the states of the Levant.

Villa Eucalypta or Maison Morel (D.O.C. 1900?).
Built by the French traveler Hercule Morel in the far suburb of Furn el Chebbak. This striking and unique example of early Franco-Moorish style in Beirut is an illustration of the Western Oriental taste, which may have seemed too exotic, eccentric and stylized for local taste. Zig-zag/cut-out arches are rarely encountered in Beirut eclectic architecture.
Source: Debbas, 1986, p.167.

Sursock Residence: An illustration of late nineteenth-century mercantile aristocracy residences, or Italianate mansions, referred to in local dialect as *kasr* or castle. Mainly designed and built by European architects and craftsmen (mostly Italians), they may have been the earliest models to be selectively imitated by local builders.
However no systematic and conclusive studies have been conducted until now, neither on the history of those mansions nor on their potential impact on the turn-of-the-century bourgeois eclecticism.

Courtesy Nadim Karam

Roots and Specificity of Beirut Electicism

Taken within this wider context, Beirut's eclecticism may be qualified as a late, short-lived and watered-down phenomenon, provincial in character and lacking a solid ideological core.

Beirut's eclecticism was **late** because it attained its peak towards the end of the 1920s when Paris was in an advanced stage of coming to terms with the International Modern style and Istanbul had already exhausted all the repertoire of revivalist styles from Classical to Gothic to Neo-Islamic to Art Nouveau. However, earlier examples of Beirut eclecticism are found in high bourgeois mansions [Box 3.1] or in the turn-of-the-century governmental and commercial buildings [Box 3.2]. This wave of early eclecticism took more than two decades to reach middle-class residential architecture, pointing therefore to a slow process of local stylistic diffusion. It also brings out a common trend observed under colonialism: Western and Oriental styles were first applied at the top, in major public buildings and high bourgeois residences; later they trickled down, through local emulation, towards vernacular architecture and popular arts and crafts.

Beirut's domestic eclecticism was **short-lived**, mainly due to its late start and its overlap with early modernism. It is interesting to note that the passage from the *immeuble Haussmannien* to the *immeuble post-Haussmannien* (characterized by the triumph of Art Nouveau and Art Deco) in nineteenth-century Paris took more than five decades [Box 3.3], and encompassed three successive changes of building law; while in Beirut, the evolution from traditional apartment house to baroque apartment building took less than 20 years (1910-1930), operating under a building law partially modernized during the Late Ottoman period and slightly amended during the Mandatory period. Furthermore, the increasing use of elevators and the spread of early modernism, starting in the mid-30s, soon put an end to the eclectic period and to its indiscriminate borrowing of styles.

Beirut's eclecticism was a **watered-down** version, compared to the exuberance found in other colonial cities. Integral copies of Western models were rare and confined to upper-class residential buildings. Small to medium-size apartment buildings abounded in the city, showing that Beirut's residential architecture had a broad base in the petit bourgeoisie; i.e., professionals, merchants, bureaucrats, craftsmen and migrants. This middle to lower-

Although it may seem inappropriate to compare the eclecticism of an emerging provincial capital like Beirut to similar currents in Paris or Istanbul, or other major colonial outposts in North Africa, the purpose is to define a common set of criteria against which eclecticism may be measured and understood in terms of its originating cultures, modes of diffusion, local variations and different levels of application.

Le Corbusier's pavilion "Esprit Nouveau", with his "Immeuble-Villas" proposal, dates back to 1925; while Perret's pioneering modern apartment building on Rue Franklin, with its exposed concrete frame and wide glass fenestration, was completed further back in 1903.

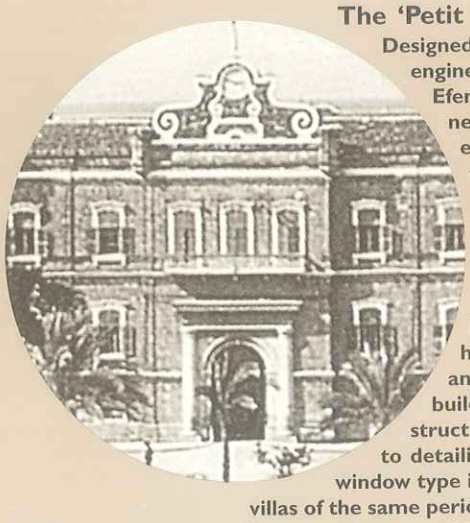
"European-style multistory apartment buildings" were introduced in Istanbul during the second half of the nineteenth century, more than five decades before Beirut, and moderate income "row-houses" were experimented with at the turn of the century (Çeylik, 1986, pp.135–137).

BOX 3.2

TURN-OF-THE-CENTURY URBAN ECLECTICISM: "ALLA FRANCA"? "ALLA TURCA"?

Two of its faces gave the "alla Franca" hour, while the two others gave the "alla Turca" hour, which was adjusted to twelve o'clock at sunset.

Fouad Debbas describing the clock tower next to the Grand Sérail.



The 'Petit Sérail' (D.O.C. 1884). **Designed by Bishara Efendi ad-Dibb, engineer of the Vilayet, and Yussef Efendi Khayyat, the city engineer (Debbas, p. 70), this late Ottoman governmental building exhibits early attempts at incorporating classical touches to a traditional form. Despite its use of a neo-classical arched portal with entablature and a balcony with balusters, the exposed sandstone work and red tile roofing guaranteed its fit within the local context. On the other hand, the Western-inspired treatment of window surrounds, with light stone, segmental lintels, curved cornices and moulded sills, would be depicted in traditional and neo-traditional apartment houses one to two decades later. This affinity between public and residential buildings before the introduction of Western building types may be attributed to the use of the same construction material and architectural vocabulary, from fenestration to detailing to overall massing. It is interesting to note that a single window type is depicted in the Grand Sérail, Petit Sérail and the suburban villas of the same period; only the window's ornamental treatment changes according to use, taste and budget (as shown in turn-of-the-century postcards and photographs).**

Source: Daher, 1994, p.8.

The Grand Sérail Clock Tower (D.O.C. 1900). **Commissioned by Wali Rashid Bey and designed by city engineer Yussef Aftimus, the tower is one of the earliest examples of the Neo-Ottoman style applied to civic architecture. Aftimus adapted this style to other building types, including residential apartment buildings, in the 1920s and 1930s.**

Source: Debbas, 1986, p.97.

income bracket of urban residents could not afford the ornate residential structures of the upper class. Speculative builders offered, instead, a watered-down version made possible by cast-concrete imitations.

In conclusion, the 1920s and 30s, being subject to a wide range of stylistic influences and a fast pace of technological change, were unable to produce an integrated model incorporating Western trends and local building practices (like the nineteenth-century suburban house). Therefore, it may be pertinent to ask: Was Beirut's eclecticism a significant transition or a surface veneer? Was it a cultivated reproduction of Western models or a conscious and transitional quest for a national style? Did it express an underlying social, political or intellectual dynamic or was it just a passing wave of bourgeois exhibitionism? In order to answer such questions, it is necessary to go beyond architectural investigation and explore changing cultural values under the Late Ottoman and French Mandate periods, emphasizing the attitude of Beirut's urban bourgeoisie towards Westernization.

Sectarianism and Cultural Dualism

As mentioned above, Beirut's early Westernization was shaped by the overlapping influence of European colonial interests and an accommodating Ottoman administration, pressured to loosen its grip on its Arab provincial possessions. By the end of the century, it was no longer clear if *vilayet* Beirut was a European colony or an Ottoman province. "To an influential portion of its occidentalised merchant notables and professional middle class, Beirut by then was Ottoman only in the sense that the foreign-owned Ottoman Bank was Ottoman; that is, in name only." Western political alliances emerged with local confessional communities, leading to an economic and cultural dualism between French-oriented Christians and Ottoman-oriented Muslims, associated with massive rural-urban migration, and a fundamental change in the socio-economic structure and traditional confessional composition of the urban population.

Buheiry, 1987, p.3.

Fawaz, 1983, p.102.

The new clothes and houses were accompanied by a new European cultural orientation, as a passion for all things European developed among the city's Christians. Western ways were emulated and Eastern ways were looked down upon. This new juxtaposition in Beirut of two ways of life was but one of the many challenges to sectarian harmony.

Orosdi Bak Department Store (D.O.C. 1900). A typical example of the new building types that created a large gap between local and imported models. Already equipped with elevators, the Orosdi Bak store exhibits a French baroque elevation with tripartite modular openings repeated over the full length of its second and third floors. It also incorporates highly enriched parapets and elaborate carved ornamentation, ranging from medallions to garlands and ribbons.

Source: Debbas, 1986, p.34.

The Imperial Ottoman Bank (D.O.C. 1906). A piece of Second Empire architecture, with mansard roofing more at home in Paris than on Beirut's seafront. The imposing neo-classical "Banque Ottomane" in Istanbul was designed by French architect Antoine Vallaury in the 1890s (Çelik, 1986, p.128). Was he also the designer of the Beirut branch?

Source: Debbas, 1986, p.32.

Examples of turn-of-the-century eclectic façades, each exhibiting a different approach to openings, protrusions and surface ornamentation (François Loyer, 1987, pp.206, 423, 258).
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BOX 3.3

PARIS: CULTIVATED ECLECTICISM

The term eclecticism, used for the first time by the French philosopher Victor Cousin in the 1840s, originally referred to an intellectual approach encompassing a variety of views borrowed from different systems of thoughts. Applied to the turn-of-the-century Parisian architecture, eclecticism announced a clear departure from the pre-1830 neo-classicism, while providing a transition between revivalism and modernism. Although criticized for its breaking the unity of styles characteristic of earlier Paris architecture, it was also justified as being the true expression of modern-age individualism and freedom of expression, where dogmas of strict architectural composition and styles had to be replaced by the ability of architects to manipulate their design vocabulary in a creative and unconventional way.

Eclecticism was also the expression of a profound mutation in residential building typology, due to the emergence of the "*immeuble spéculatif*" or the "*immeuble de rapport*" and the triumph of the Liberal bourgeoisie under Louis-Philipe and the Second Empire. The main contribution to its development came mainly from: 1- the explosion of ornamentation and its standardization in bourgeois residential buildings between 1840 and 1850, corresponding with the early establishment of "*l'immeuble Haussmannien*"; 2- the emergence of Art Nouveau in the 1890s, further expanding the variety of ornamentation; and 3- the façade competitions sponsored by the Paris Municipal Council (six prizes awarded annually between 1897 and the eve of the First World War). The development of an eclectic tradition in residential architecture was further reinforced by the creation of grand boulevards, large lots and the successive amendments of building law to adapt to this voluntary approach to urbanism.

Another face of Parisian eclecticism was the Neo-Islamic style or *Arabisance*, tied to the French colonial ideology and its visual manifestation in North Africa (and later in Beirut). This picturesque/exotic / *café concert* style was expressed in the context of Paris colonial exhibitions by the reconstruction of complete sections of Arab towns, with the double purpose of: 1- "showing the multifarious regional faces of the French Empire" and 2- "awakening the interest of the visitors in another culture, respect for and understanding of which would have to form one of the cornerstones of France's new colonial role."(Baudez, and Béguin, 1980, p.43)

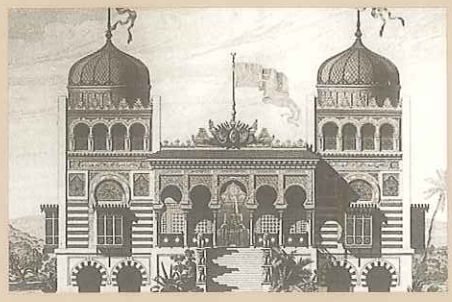
The Neo-Islamic style, recycled through Istanbul as "Neo-Ottoman style", was adopted in Beirut as a symbol for Arab / Islamic identity... .

What style is it? Byzantine? Arab? Roman? Greek? Florentine? The architect Paul Sédille concluded that: "It is neither this nor that, and in spite of all that, it is modern".

About Garnier's Opera, as quoted in Norma Evenson

Arabisance & Colonial Picturesque

The Palace of the Bey of Tunis; 1867 Paris Exhibition.



Early eclecticism

Rue Lafitte, 1841. Symmetrical façade, central bay, triple arches and differentiated treatment of lateral openings on each floor; the same principles will be applied, starting in the early 1920s in Beirut (Loyer, 1987, p.146).

References: Baudez, Gildas and Béguin, François "Observations on French Colonial Architecture in North Africa between 1900 and 1950", *Lotus International*,1980, Vol. 26, p.41-52.
Evenson, Norma, Paris, *A Century of Change*, 1878-1978, New Haven, Yale University Press, 1979, Ch.4, opening quotation p.129.
Loyer, François, *Paris XIXe Siecle: L'Immeuble et la Rue*, Paris, Fernand Hazan, 1987, Ch.II, V.

Cultural dualism became explicit on three complementary levels: 1- political ideology, 2- education and 3- way of life. Politically, *Libanisme* was heralded by a group of Christian intellectuals and middle-class professionals, backed by the petit bourgeoisie of the mountains, who advocated a unique cultural and economical identity for *le Grand Liban* as *La Suisse de l'Orient*; they set its roots back in the ancient Phoenician tradition, which was able to endure in the "mountain refuge" away from the Arab-dominated coast. In contrast to Phoenician *Libanisme*, Arab nationalism emphasized Syrian political and territorial unity, implying, despite its secular definition, both Islamic solidarity and Sunnite political dominance. Concurrently, non-Maronite Christians promoted secular pan-Syrianism, due to the presence of Greek Orthodox communities in Syria, Palestine and Transjordan and their "fearing the implications of Arabism as a new guise for political Islam."

Salibi, 1988, p.54

In terms of education and lifestyles, missionary schools (which succeeded in making Beirut the Western educational center of the Middle East, but had a limited success in evangelizing the local population) provided the intellectual cover for the political ideologies that served the competing colonial powers they represented. The American University of Beirut served as the locus for Arab nationalism, in tune with the American and the British policy against the French presence in the Levant. The Université St. Joseph promoted the Christian *Libaniste* ideology, legitimizing the French political reorganization of the Levant. Cultural dualism between French and Anglo-Saxon education, ideologies and lifestyles became progressively an integral part of the Lebanese national personality and its customs.

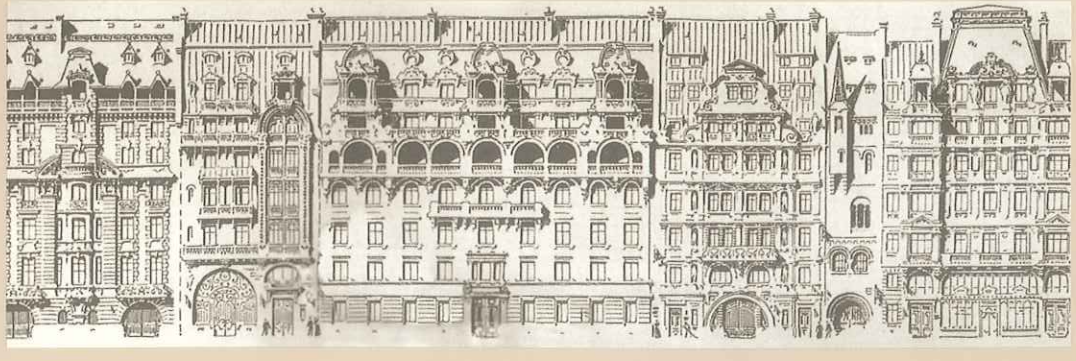
Cultural Dualism and Stylistic Pluralism

Under such conditions, eclecticism was bound to reflect a dualistic culture, therefore losing its potential to generate a reaction to Westernization induced by a shared cultural identity. In more homogenous societies, like Istanbul, with a solid Islamic background and a sophisticated building tradition, the local architectural intelligentsia of the turn of the century was able to gather enough momentum to react against the "decline" and "degeneration" of Ottoman architecture under the impact of European revival styles [Box 3.4]. Such an intelligentsia was not prevalent in Beirut. In the 1920s and 30s, architects and engineers were few. The practicing ones were proud of their pioneering role and were eager to apply their Western-acquired knowledge on

The first architectural school (Académie Libanaise des Beaux-Arts) was established in 1943, more than half a century later than the School of Fine Arts in Istanbul, founded in 1881, with 198 students already enrolled in 1895 (Çelik, 1986, p.152).

Late Eclecticism
Rue de Charenton, winning entry in the "*concours des façades de la Ville de Paris*", 1911. Selected buildings were exempt from half of the street tax for new construction; owners received bronze medals, architects gold medals; "the jury consisted of five members of the Muncipal Council, the director of the Services Municipaux d'Architecture, the chief architect of the city, and two architects chosen by the contestants."
(Evenson, 1978, p.144).

Illustration of authorized protrusions on 20m-wide streets, as stipulated in the 1882-84 decrees (Loyer,1987, p.408).



"virgin" grounds, from the Neo-Islamic styles recycled through Istanbul (e.g., Aftimus) to early concrete modernism "*à la Perret*" (e.g., Tabet). Furthermore, they were adopted both by the Ottomans then by the French administration as partners and active participants in the colonial "*mission civilatrice*". Their clientele encompassed the local high bourgeoisie, the foreign institutions and the colonial political establishment, as demonstrated by the itinerary of the American-educated Yussef Aftimos. From a municipality engineer and trusted architect of the Wali, he was assigned the Ministry of Public Works under the French Mandate, in parallel with his extended design practice in residential architecture.

Furthermore, these early engineers and architects were mostly Christians and partly of mountain origin. They had little affinity with Beirut's medieval Islamic heritage (a poor heritage by the standards of such cities as Damascus, Cairo or Istanbul, or even Tripoli and Sidon). Accordingly, they put forward an image of a colonial Mediterranean city, with Oriental / Westernizing overtones, reflecting the *Libaniste* view of Beirut as "la porte de l'Orient".

Concurrently, the attempts by local designers and builders to stick to a Neo-Ottoman style as an affirmation of an Arab-Islamic identity was an exercise in self-deception. Islamic revivalism was a Western colonial creation (like all revivalist styles), figurative and skin-deep, with no reference to "the stylistic differences between various regions of Islam and periods of its history." Dismissed in Paris as *café concert* style, it was officially established by Jonart (Governor General of Algeria) as an a Arabo-French, Franco-Islamic, Neo-Moorish variety, or *Arabisance*, aimed at promoting the image of France as the protector of its provinces instead of the conqueror (as conveyed by the neo-classical style). In Istanbul, the young Turkish generation of architects revised the Neo-Islamic style and promoted its own synthesis of tradition and modernization, leading to the "Turkish renaissance" style (applied later in Beirut as the Neo-Ottoman style). The same reactionary trend appeared in North Africa during the last evolutionary stage of *Arabisance*, when local architects had an important role in making explicit the "subtle qualities that only a long and careful observation had been able to reveal" and "the molecular arrangements entering into the composition" of indigenous towns and buildings.

Çelik, 1986, p.144

Baudez, & Béguin, 1980, pp.41, 44

Ibid, p.44.

No such movements arose in Beirut [Box 3.5]. Islamic revivalist styles were applied in residential architecture as pastiche or corrupted copies, in bits and pieces, diluted or hybridized by local builders and engineers.

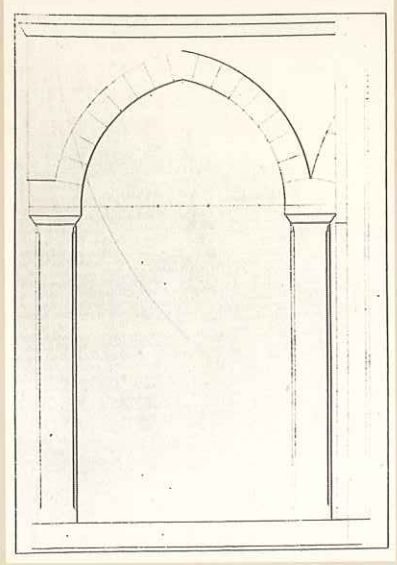
BOX 3.4
ISTANBUL: SELF-IMPOSED ECLECTICISM

The country can only become capable of resistance through Europeanization.
J.P. Peters*

The self-imposed eclecticism of nineteenth-century Istanbul emerged from a pressing need to modernize, or to "fade away in Asia". In 1827 the turban was already banned, followed by a long series of urban and political reforms. Istanbul became the most advanced nineteenth-century capital to experiment and come to terms with Westernizing trends, due to its non-colonial status. Reforms in urbanism and architecture encompassed: 1- the regularization of the urban fabric, 2- the formalization of building regulations, 3- the emergence of new building types, both public and residential, and 4- the experimentation with imported Western styles. Classical revivalism, Gothic revivalism, Islamic revivalism and Art Nouveau were introduced by Western architects and either applied to Western building types or superimposed on traditional structures, leading to hybridization.

Bourgeois domestic architecture underwent two basic changes: the emulation by the Muslim upper class of imported Western styles, and the emergence of "European-style multistorey apartment buildings" as a result of the legal restrictions on wood construction and the adoption of brick and stone for fire resistance.

Soon, local intellectuals would express their fear of the degeneration of Ottoman architecture if imitation of Western styles continued. Successive attempts were made during the last quarter of the nineteenth century to come up with new doctrines: from the creation of "Ottoman orders" (below), using Vitruvius classification as reference, to the application of Viollet-le-Duc's universal ideas on surveying major monuments and deducing their underlying principles through careful analysis.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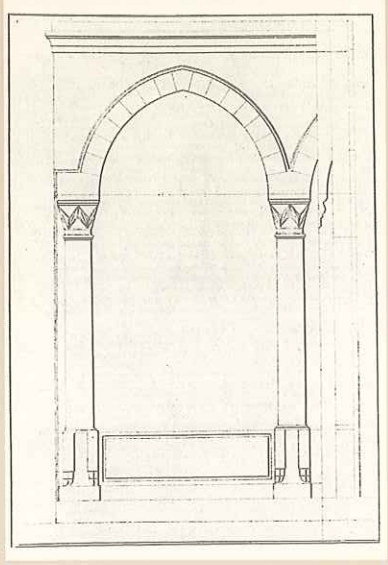
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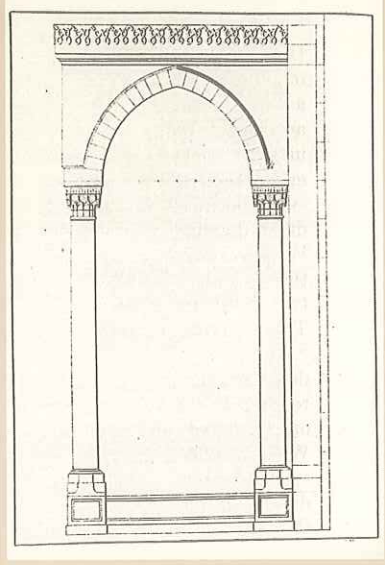
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The malleability of concrete in producing complex and repetitive forms, and the pliant nature of neo-Islamic styles, encouraged the proliferation of Oriental shapes and forms, from the treatment of central bays, to windows and balustrades, without generating, however, a "local version", as usually expected from the popular digestion of imported influences.

Although the Neo-Islamic style may have been favored by the Muslim bourgeoisie and European revivalism by the Christian bourgeoisie, both varieties were prevalent in Christian and Muslim quarters. Accordingly, architectural styles and ornamentation may have been chosen for their innovative impact and originality, rather than for their sectarian connotations; especially in that no differences existed in the interior layout of buildings (central-hall type), pointing to similar domestic habits and lifestyles.

Finally, Beirut of the Late Ottoman and French Mandate periods was a transitional society, witnessing the superimposition of a Christian mountain culture over a Muslim urban culture, and the rise of a new middle class looking East and West and conditioned by internal sectarian conflicts and fast modernizing tendencies. Those factors determined the extent of Beirut's receptivity and inner permeability to Western stylistic influences, often qualified too hastily as a "Levantine appetite for all that comes from outside." Beirut's eclecticism mirrored the city's cultural dualism, its provincial political status and its petty bourgeois mercantile outlook. It was characterized by imitation without questioning, therefore lacking the underlying integrity of more homogenous cultures. The latest imports of revivalist trends, from neo-classical to Neo-Turkish and Art Nouveau, mixed or matched, were cast in concrete, freely altered by local builders and superimposed on traditional central-hall buildings. This short-lived exuberance (extending for one decade) stopped with the spread of early modernism, starting in the 1930s. However, the eclectic "spirit" continued, untouched, half a century later. Its shaping cultural forces, created under colonialism, remain unchanged. Forever conditioned by sectarian dualism, Beirut's eclecticism (lately revived by a non-assimilated post-modernism) may constitute at the end the only "authentic" expression of a pluralist and partially integrated society.

Antonius, Soraya, *Architecture in Lebanon*, Beirut, Khayat, 1965.

We may also assume from the homogeneity of Lebanese architecture that Christians and Muslims appear to have enjoyed a similar lifestyle;... .

Munro, John, "An Historical Perspective of the City", *The Middle East City*, Saqqaf, Abdulaziz T. ed., New York, Paragon House, 1987, p.260.

As a result of the *Tanzimat* reforms, a Western-style School of Fine Arts was founded in 1881, replacing the traditional master-apprentice approach. Finally, under the impact of the Ecole des Beaux-Arts, eclecticism gained legitimate status. It was incorporated in the academic study of Ottoman architecture as a significant addition to the variety of existing styles.

References: Barey, André. "Along the Banks of the Bosphorous, Istanbul between Orient and Occident", *Lotus International*, vol. 26, 1980, pp.21-40.

Çelik, 1986, Ch.6.

* *Histoire des Turcs*, Payot, Paris, 1966, p.83, as quoted in Barey, p.21.

The Ottoman Orders

1. *Ordre échafriné*;
2. *Ordre bréchiforme*;
3. *Ordre crystalisé*.

The three orders correspond to the Doric, Ionic and Corinthian orders. They are included in the treatise *Usul-u Mimari-i Osmani* prepared by Montani Efendi and Boghos Efendi Chachian, at imperial command, for the 1873 Vienna Universal Exposition. The treatise was aimed at providing an architectural vocabulary for contemporary buildings based on Ottoman architectural tradition. "Hence the *ordre échafriné* was categorized as appropriate for lower levels of galleries, for shops, and for every building type that required a great simplicity. The *bréchiforme* was very severe and heavy and was not used in civil architecture; the *crystallisé* displayed playfulness and refinement and was used in the interiors of civil buildings..." (Çelik, 1986, pp.148-150.)

BOX 3.5

LATE ECLECTICISM IN NON-RESIDENTIAL ARCHITECTURE

Stylistic imports from Istanbul and Paris by the early generation of Western-educated engineer-designers, showing an overlap between Ottoman revivalism and early modernism and pointing out, as early as 1930, the decline of eclecticism in non-residential architecture.

Grand Theâtre
D.O.C. 1930,
by Yussif Aftimus

Photograph by author

Hôtel St. Georges
D.O.C. 1930,
by Antoine Tabet

Courtesy Gaby Daher

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Architectural Elements

However, the appearance on the scene of a new material [concrete], together with its new technique of construction, was to deal a fatal blow to the wholesomeness of Beirut architecture and, by the same token, to all Lebanese architecture. We have seen how the traditional architecture had evolved through many generations and how master builders and craftsmen had grown up with an intrinsic knowledge of the materials and processes of construction, how both the builders and the users complemented each other in arriving at refined development of their goal. Suddenly both builders and users were taken by surprise, subjugated by this new material which could be poured in plastic shape in any mould, to form and harden, which could be made to cover spans of dimensions hitherto unattainable, and which could be made into construction blocks to replace stone...

The master builders adopted this new material and started building by traditional plans using the reinforced concrete material and technique, but this time with no experience in and no personal feeling for the process and very often simulating the old forms which were akin to the natural material of stone. As a first degeneration of the style, if so we want to term it, we see the elegant marble balconies on stone corbels and the graceful railings replaced, first by heavy reinforced concrete balconies and balustrades of all shapes and designs and later by deep square porches supported by reinforced concrete columns. The triple arcade motif is now overshadowed by this porch which is usually in poor proportion to the rest of the building. This was a basic change for which the master builder was not prepared. However, he now allowed himself all sorts of license in experimenting in designs for this porch. Since the restraint within which the master builder had operated in producing the traditional style was removed, he felt free to innovate, probably to please or rather impress a client.

Raymond S. Ghosn, "Beirut Architecture", *Beirut, Crossroads of Cultures,* Beirut, Librairie du Liban, 1970, pp.190, 191.

chapter 4

Investigation Framework

Published work on Beirut's domestic architecture, prior to 1994, was mostly confined to short comprehensive overviews (Ghosn, 1970) or to epilogues of books dealing with regional architecture in Lebanon (Liger-Belair and Kalayan, 1966; Ragette, 1974). More focused research was conducted during the 1980s and early 1990s by non-architects, mainly historians (Sehnaoui, 1981; Abdelnour, 1982; Davie and Nordigian, 1987). This research critically dealt with the origin of central-hall buildings as a Beirut-related urban phenomenon, putting into question the 1960s and 70s assumptions of mountain influences and Phoenician/Roman origins (Saliba, 1997). Evolution of Beirut's architecture is generally subdivided into three periods: pre-World War I, Inter-war, and post-World War II (also referred to as post-Mandate or Independence period), with an emphasis on the first period due to its association with the "Lebanese" central-hall house, a national icon in the collective imagery. Meanwhile, French Mandate architecture received little attention and was treated by local modernists as "deficient", due to the introduction of concrete and the resulting deterioration of traditional architectural vocabulary (see opposite quotation). Alternatively, Ragette devoted one of the ending chapters of *Architecture in Lebanon* to a brief and generic analysis of the transformation of the central-hall house into a walk-up apartment building. His work was taken as an analytical point of departure for this study (Ragette, 1974, pp.188-191).

Ragette's analysis was based upon a survey conducted during the summer of 1971 in Achrafiye, a residential district of Beirut which contains many examples of the three phases. The 1993-1994 survey, underlying this study, encompassed the 24 sectors of municipal Beirut west of Damascus road, then was expanded to East Beirut to compare results. Although Ragette's analysis was an important tool in starting a general categorization of inventoried buildings, it soon proved to be too limited to account for the extensive stylistic variations of the period, its main types and subtypes, and the vertical segregation of structures according to socioeconomic status. Accordingly, for the purpose of this study, an analytical framework was articulated around a set of variables related to the formal, functional and contextual attributes of buildings, using both diachronic and synchronic perspectives. Those variables were subdivided into three major categories: external, internal and status indicators.

External Indicators

External indicators were developed in response to the need for ordering a large amount of visual material generated by systematic field inventories. They are defined as visual clues, observable from outside, which may yield reliable information on the chronological dating and typological classification of structures. Their role is to inform visual analysis and to help articulate distinct reference categories before resorting to time-consuming architectural surveys. External indicators revolve around building envelope and siting and are segregated into the following variables: **architectural style and façade typology, building construction and height, and floor-space concentration and modes of extension.** What type of information may be deduced from those variables and what is their level of reliability?

Architectural Style and Façade Typology

Dating and classifying buildings by style is a standard approach for architectural historians. However, when applied to anonymous residential architecture in an eclectic period, like Beirut in the 1920s and 1930s, it may easily lead to confusion and unfounded generalizations. From a critical review of the survey material, it became apparent that stylistic features should be segregated from another key variable: façade typology (refering to the predominant features and ensemble of architectural elements that confer to the elevation its distinctive character). While style and type formed an organic whole in traditional central-hall buildings, they were later segregated due to the profusion of imported styles and elevation types during the 1920s and 1930s. However, through a comparative analysis of the large sample of inventoried buildings, it is possible to outline an underlying logic tying façade typology to stylistic treatment. This logic may be expressed as follows:

- The most reliable feature for the chronological classification of central-hall buildings is the *central bay*. Being the most visually prominent element, it sets the character and predominant style of the whole elevation. It also constitutes the common architectural element shared by all central-hall buildings.
- By examining the variety of intermediate shapes that the central bay took in less than 20 years, starting as a triple arcade and ending as a simple rectangular opening [Box 6.1], a clear idea may be formed about the range of styles that pervaded central-hall buildings between the mid-1920s and mid-1930s. From this variety, broad stylistic phases may be deduced for reference.

• Besides stylistic variations, the central bay generated two additional façade types: the veranda type and the bow-window type. The first was created through the addition of a concrete veranda, which soon became the predominant elevation feature in its own right; and the second was a European import, although it already existed in its wider definition (as corbeled closed protrusion) in local domestic architecture since medieval times.
• A general correspondence exists between façade typological evolution and stylistic tendencies. Earlier central-hall buildings exhibited the traditional "Lebanese" style, which was executed first in stone then infused with decorative elements in concrete. With the strong emergence of walk-up apartment buildings during the 1920s, a period of high eclecticism prevailed. A wide range of styles was applied indiscriminately on the three elevation types: central bay, veranda, and bay window. During the first half of the 1930s, these same types underwent a period of Art Nouveau and Art Deco influence, before the spread of early modernism and the adoption of elevator buildings by the end of the 1930s.

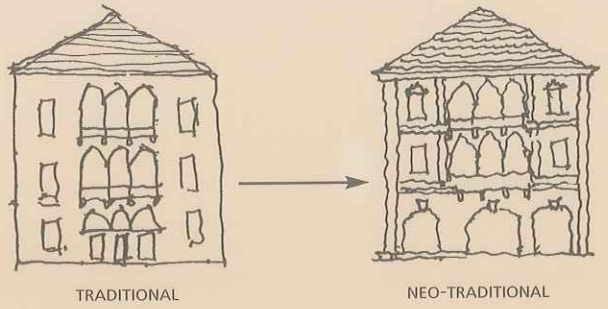
Based on the above, a periodization scheme may be established, starting with an early transitional phase emphasizing traditional and neo-traditional apartment houses, followed by a mid and late transitional phase emphasizing the three façade types and their stylistic and morphological evolution [Box 4.1] and [1]. It should be mentioned that high-style models are misleading when taken as a base for periodization. Prior to the 1920s, such structures were mostly avant-garde pieces of architecture dependent on foreign designers and craftsman, whose influence may have trickled down through imitation or were just ignored. They tended to introduce ahead of time new imported trends that were neither indicative of the prevalent building materials and construction skills during a particular period, nor representative of the types and styles accepted by the society at large. A clear example is the late nineteenth-century mansions of the mercantile aristocracy, like the Sursock residence (now Musée Sursock), which applied high eclecticism a quarter of a century before the proliferation of such styles in rental apartment buildings.

Building Construction and Height

Although superstructure and in-fill materials are not always evident from the outside, visual clues such as the number of storeys and floor height are reliable indicators for dating. From the comparative analysis of 1920s and 1930s buildings, it became apparent that floor to ceiling height decreased from an average of 4.50m in the early 1920s in central-hall apartment houses to an average of 4.10m in early 1930s walk-up apartment buildings. Then it was pre-

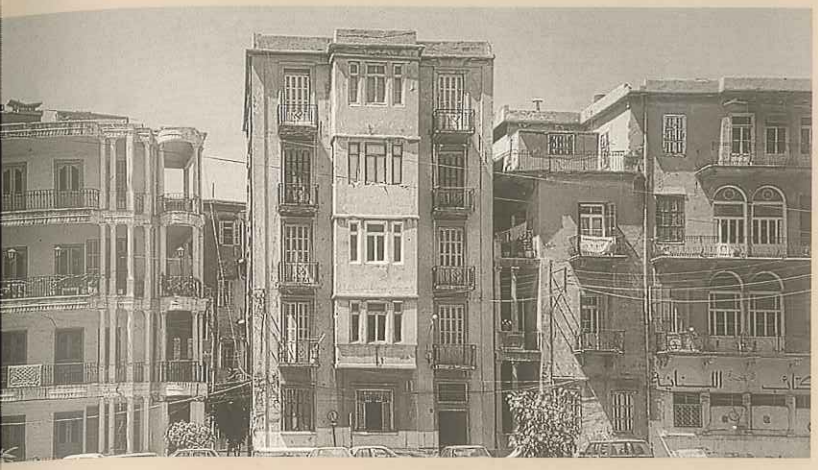
The three generic types of apartment buildings lined up along rue Université St. Joseph, (Yessouieh sector); from left, veranda building (mid transitional), bay window building (late transitional) and central bay building (mid transitional).

BOX 4.1
INVESTIGATION FRAMEWORK, WITH DIAGRAM ILLUSTRATING THE TYPOLOGICAL EVOLUTION OF BEIRUT'S PRE-ELEVATOR APARTMENT BUILDINGS

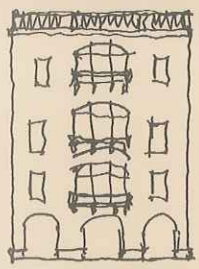


CENTRAL BAY BUILDING

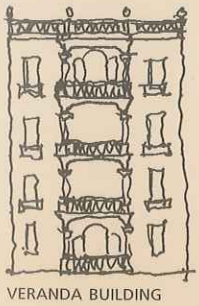
< 1920
Early Transitional Phase



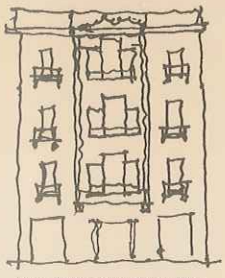
Phase	External indicators	Internal indicators	Status indicators
- Early Transitional - Mid Transitional - Late Transitional - Early Modern	- Architectural style and façade typology - Building construction and height - Floor-space concentration and modes of extension	- Plan morphology - Vertical circulation and domestic services	- Size-type - Level of ornamentation - Design quality



CENTRAL BAY BUILDING



VERANDA BUILDING



BAY WINDOW BUILDING

Partial assimilation of Art Nouveau and Art Deco Styles and progressive simplification of forms under the impact of Early Modernism

1920 - 1930
Mid Transitional Phase

> 1930
Late Transitional - Early Modern Phase

scribed as 3.40m at the end of the French Mandate period by the decree 61/LE, 1940, Art. 20. Although construction permits were mandatory, no information could be gathered on the mode and degree of enforcement of building height and other regulations during the 1920s and 1930s.

Floor Space Concentration and Modes of Extension

The impact of location and urbanization on central-hall structures is legible through floor-space concentration (floor/area ratio, setbacks, site accessibility) and the vertical and horizontal extension of buildings. From paired buildings with in-fill staircases to the stacking of additional floors, modalities of expansion are important indicators of the degree of the inner flexibility of central-hall plans in adapting to the increasing demand for residential space and site exploitation.

Internal Indicators

While external indicators are related to outside observation, internal indicators require accessibility to the interior of buildings for spatial investigation; but measured drawings being both time-consuming and obtrusive, such a process is only reserved for a small sample of representative buildings (after a preliminary dating and categorization). Internal indicators may be grouped under one generic term: plan morphology, which involves both the functional and spatial organization of domestic structures.

Plan Morphology

The three main themes associated with plan morphology are 1- the evolution of the central hall as a living and distribution space, 2- the progressive integration of vertical circulation and internal sanitation and 3- the increasing specialization and privatization of residential functions. As such, the study of plan morphology is a necessary complement to visual surveys, in order to acquire an in-depth understanding of the evolving lifestyles and technological innovations in domestic architecture.

Status Indicators

Groups of buildings sharing the same stylistic and typolgical features showed marked differences in terms of size and quality of design and construction. They obviously belonged to different socioeconomic groups with different income levels. It was therefore necessary to establish another set of criteria to segregate those buildings according to status, in order to give a social meaning to the excessive variety of structures found through field surveys, and especially to investigate the commonalities and differences between high-style and vernacular buildings.

Status indicators encompass observable and objective criteria, such as size-type and level of ornamentation, and more subjective criteria, such as design quality (not to be mistaken with "good" or "bad" taste).

Size-Type

In the case of a single apartment per floor, building size is a reliable status indicator, since it directly reflects the wealth of the inhabitants; however, in the case of more than one apartment per floor, unit size is a more reliable measure. Yet, it is difficult to trace clear boundaries between successive size-types through size only, especially for middle and lower middle-status buildings; additional qualitative criteria are needed for a more informed judgment.

Level of Ornamentation

Before the introduction of concrete, ornaments were handcrafted in stone and marble and therefore required the advanced skills of master builders. Hence, the complexity of detailing and the quality of material and workmanship (referred to as level of ornamentation) were accurate indicators of the owner's wealth. With the generalized use of concrete moulds in the 1920's, complex decorative details were easily duplicated, making ornamentation accessible to lower-cost structures and encouraging both imitation and eclecticism. Upper and lower bourgeois housing exhibited the same styles and level of ornamentation using reinforced concrete. In order to differentiate between high-style and vernacular structures, between architect-designed buildings and builder's imitations, additional qualitative criteria are therefore required.

Design Quality

By design quality is meant the special effort invested in façade composition, detailing and interior planning. Carefully designed buildings imply greater economic resources expended by the owners to show their wealth, individuality and social standing. Design quality may be the result of the work of professional designers or the expression of the superior skills of a master builder. On the other hand, it may be the outcome of innovation or a refined elaboration on pre-established models. Telling examples are the late nineteenth-century mansions of the mercantile aristocracy [Box 3.1] and [Ch.5: 3], which exhibited both florid interventions by Italian architects and elaborate craftsmanship by traditional builders. With the strong emergence of rental apartment buildings, design quality expanded downward. Architects and engineers were equally needed for the design of spacious flats for the upper bourgeoisie and for efficient floor plans for real estate investors addressing the petite bourgeoisie. They were soon imitated by master builders who were able to assimilate fast concrete construction techniques and the wide range of ornament vocabulary.

In order to differentiate between professionally-designed buildings and their vernacular counterparts (which is difficult, especially in the case of moderate-cost structures), some external attributes may be checked:

- **Façade elements and composition:** Vernacular concrete buildings tend to exhibit a variety of styles and mass-produced ornamentations, giving the impression of a spontaneous collage of elements, as opposed to the studied complexity of formally designed elevations (drawing-board geometry).
- **Depiction of styles:** Although the same styles may be encountered in vernacular and architect-designed buildings, in the first case ornamentation details tend to be rough and diagrammatic, while in the second case they are usually elaborate and refined.
- **Quality of construction materials and finish:** Although not conclusive evidence, the aging of concrete/limestone elevations is a good indicator of building status. Aging is more obvious in lower-cost structures than in moderate to high-cost structures (professionally designed or not).

However, the most distinctive feature of architect-designed buildings goes beyond external and internal observation. It is the skillful integration of efficient planning, massing, façade composition and siting. Buildings are neither conceived as an envelope following site boundaries and "filled in" with a central-hall layout, nor as a standard rectangular plan whose size is readjusted according to lot configuration. Due to its synthetic nature, design quality can be detected more easily through the educated eyes of people who are working in the construction and design field.

The Vernacular Scale

A useful reference framework that translates status indicators into apprehensible building categories is the vernacular scale that takes into account the designer of the building, the conventions he followed, his relative concern for aesthetic versus economic considerations and, finally, the source of building and ornamentation materials. Applying this scale to Beirut's traditional and transitional architecture, four vernacular levels may identified:

- **The supra-vernacular category** (referred to as high-style buildings by Rapoport and polite architecture by Brunskill) includes the exclusive residential structures pertaining to Beirut's merchant aristocra-

cy, urbanized feudal lords and rich notable families. As mentioned before, such residences were designed mostly by foreign architects (mainly Italians) and built by Western-trained builders who followed Western models and fashions. In the absence of financial limitations, construction and ornamentation materials were imported following the designer's wishes.

- **The high vernacular category** encompasses the residential structures owned by the rising commercial and financial bourgeoisie, middle-status notable families and migrants of rich background (e.g., Aleppo and Damascus Christians). The owner and the master builder copied upper-class mansions with an eye on cost and functional considerations. Imported materials were selectively used, while local materials were handled with skill and sophistication.
- **The mainstream vernacular** category refers to middle and lower middle-class dwellings of small merchants, shopkeepers, craftsmen, artisans, low-level bureaucrats and migrants of modest background (mainly mountain Christians). Structures are built by small contractors using local materials, with a predominant concern for functional and financial considerations. The use of imported materials is restricted to necessities.
- **The basic or lower vernacular category** includes the simple dwellings of agricultural and industrial workers and poor refugees (Armenians and Kurds). Another designation is self-help housing, built by the residents themselves with mutual help and limited participation from local tradesmen.

The vernacular scale shall be reviewed in relation both to time and spatial considerations. While the participation of professional designers was confined to aristocratic mansions during the late Ottoman period, it expanded down in the 1920s and 1930s to upper bourgeois apartment buildings, due to the increasing design activities of local engineers and architects and the introduction of concrete as a new construction material. On the other hand, suburban vernacular expanded due to urbanization pressures. It drastically reduced the category of upper-class mansions and expanded the two intermediate categories of high and mainstream vernacular. It shall be stressed that no clear boundaries exist between one category and another. The vernacular scale is more a general reference framework than a precise categorization tool.

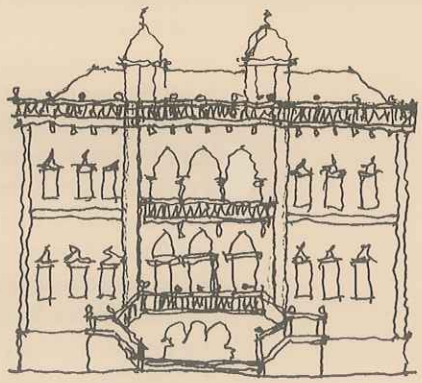
Conclusion

In order to acquire a comprehensive view of the early evolution of concrete apartment buildings, it is necessary to investigate external, internal and status indicators. The importance given to each depends on the time available for the survey and the significance of each building. The interpretation of indicators is both a systematic and an intuitive process, based on the increasing familiarity with the subject and the educational and experiential background of the observer. Knowing the definition, meaning and limitations of the above variables is a safeguard against excessive generalization and a guiding thread when faced with a large amount of visual information. It may be pertinent to keep in mind the four axioms, deduced from this study, concerning the evolution of transitional architecture. Although they may seem obvious at first reading, they are usually overlooked when confronted with a high variety of overlapping evidence:

- **The pyramid of taste:** The vertical diffusion of fashion and taste from upper to lower social classes, and from high-style to vernacular architecture, results in a time lag and different rates of stylistic diffusion according to economic status, urban location, availability and cost of materials and building skills. The rate of stylistic diffusion was much faster in the 1920s and 1930s, due to the generalized use of concrete, rapid urbanization and the expanding middle and lower middle-class. At the turn of the century (early transitional phase), the rate of stylistic diffusion was slow, due to a reduced penetration of and exposure to foreign influences and to the inferior malleability of stone, as compared to cast concrete, in reproducing ornamental features.
- **Overlapping of stylistic periods and superposition of styles.** Periodization is used for analytical purposes and only refers to the predominant trends within a particular time bracket. Some architectural elements and ornamentation found in the early 1920s were still used in the mid-1930s, while the prevailing mood of eclecticism encouraged the superposition of many styles from different periods within a single elevation. It is therefore necessary to search for more reliable indicators for accurate dating.
- **Irreversibility of technological change.** While styles are related to individual preferences, plan morphology and superstructure are tied to innovation in building construction and sanitation, which tend to be irreversible. Analysis of floor plans and wall sections uncovers the impact of modernizing lifestyles and technological improvements on the internal layouts of buildings. Accordingly, they form a more reliable base for dating when in doubt about formal indicators.

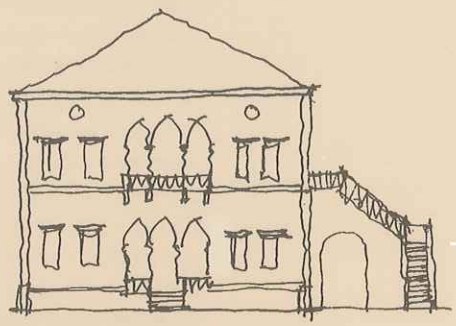
BOX 5.1
SUBURBAN FAÇADE TYPOLOGY

a



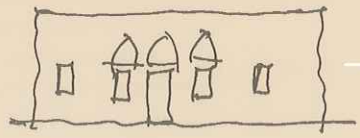
Supra-vernacular:
mansion or palace (*kasr*)

b



High and mainstream vernacular:
family apartment house (*bayt or hara*)

c



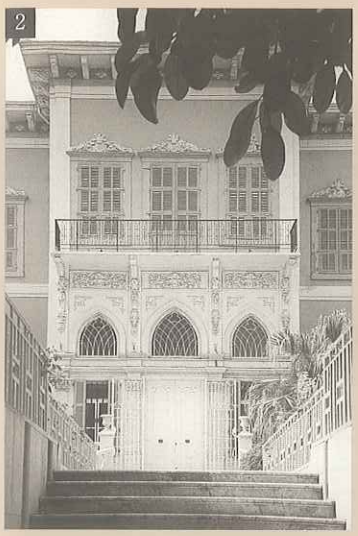
Basic vernacular:
house and farmhouse (*bayt or dar*)

chapter 5

Central Bay Buildings

Traditional and Neo-Traditional Phase


1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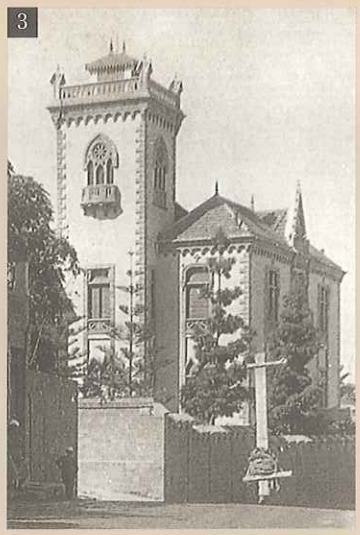
3

Source: Figlands
Fouad Debbas, 1986


4


5


6


7

The central bay typifies the central-hall building from its early inception, during the second half of the nineteenth century, to its maturation and decline at the end of World War II. As such, it symbolizes and conveys the changing taste and lifestyles of Beirut's middle class under the increasing influence of Western trade and fashion. Its archetypal pointed arch evolved through a multiplicity of shapes before taking its modern form as a simple rectangular bay. The following two chapters trace this evolution, placing the central bay in the context of other façade elements in an attempt to reach a comprehensive view of its successive transformations. The unresolved issue of the origin of the central-hall house, and therefore of the central bay, are considered to be outside the scope of this study which is mostly concerned with the issue of continuity and change between the Late Ottoman and French Mandate periods.

Suburban Façade Types

The central-hall house probably emerged as a family suburban residence for the upper bourgeoisie, which migrated outside the walled city in the middle decades of the nineteenth century [Ch.1]. This new extroverted type may be considered as a complete change from the dense introverted *intra muros* housing, consisting mainly of courtyard units or stacked modules with elementary elevations [Table 1.1]. Often compared to a "Venetian villa", the central-hall house and its central bay elevation were the result of mass-produced construction materials imported from Europe [Ch.2] and the changing values of a new Western-oriented bourgeoisie wanting to exhibit its acquired wealth vis-à-vis the old mercantile aristocracy. The increasing use of glass, starting in the 1840s, made possible the creation of big glazed arched openings, with cantilevered balconies exposing the inhabitants both to the street and to distant mountain views. The desire of seeing and being seen was complemented by the use of expensive materials in the elevation, such as marble, which was confined traditionally to interior flooring.
The adoption of the pitched roof eliminated the possibility of using the roof terrace as an extension of domestic space. Furthermore, it was more justified in a mountain setting as a protective measure against rain, humidity and snow accumulation.


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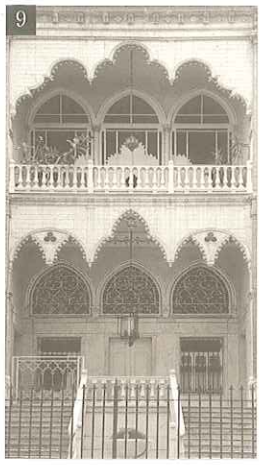
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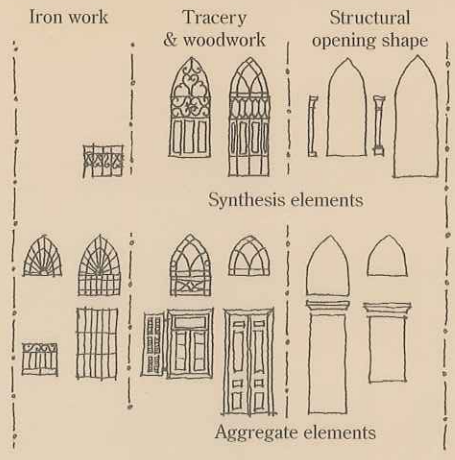
BOX 5.2
THE TRIPLE ARCH, VOCABULARY AND SYNTAX

In the context of the following discussion, the triple arch is defined as the tripartite arched opening pertaining to the central hall in pre-1940 domestic buildings. It may be considered as the archetypal form of the central bay in local domestic architecture. This discussion focuses on the formal language of the triple arch; i.e., its inherent vocabulary and syntax. The changing relationship to plan and façade composition is dealt with in other sections, and the logic underlying its later transformation into a simple rectangular bay is covered in [Box 6.1].

Triple Arch as Aggregate and Modular Form

From preliminary observation, it appears that the central bay is a combination of three generic elements: the window, the door and the arch. These elements are clearly expressed in medium to lower-cost structures as shown in [8]:
- on the first floor, the central bay is composed of a door module flanked by a window unit on each side with three arched openings on top;
- on the second floor, arched openings are eliminated due to height restrictions.
These two solutions applied in the same building demonstrate that the central bay was perceived by local builders as:
1- An aggregate form of standard components; i.e., windows, doors, arched openings.
2- A modular form adaptable to width and height restrictions.



Different types of central bay elevations developed according to the wealth, social standing and lifestyle of owners [Box 5.1]. The supra-vernacular elevation pertained to the aristocratic mansion (*kasr*); the high and mainstream vernacular elevation to the family residence of the emerging bourgeoisie (*bayt* or *hara*); and the lower vernacular elevation to the garden suburban house (*bayt* or *dar*) and to the farmhouse. Such structures still exist in the middle of high-rise apartment buildings in Achrafiyé and Ras Beirut [4], [5], [6], [7].

Although the three types of elevations shared the central bay as a common feature, they differed in the level of façade articulation, the amount and type of ornamentation and the use of imported materials of construction. The aristocratic mansions usually exhibited a dignified and ostentatious elevated entrance with an elaborate staircase, a recessed or protruding central bay and highly ornate surface detailing [2] and [Box 3.1]. Another sign of opulence was the unrestricted use of imported materials, such as marble, in portals, staircases, balusters and handrails, entrance porch framing, recessed bay cladding and triple arch columns [9]. Designers were mostly Italians, who sometimes brought their own craftsmen, but usually employed local builders with advanced skills. The stylistic categorization of these mansions is usually referred to as Italianate, albeit inaccurately. Each mansion exhibited a different and highly eclectic mix of revivalist styles, from Gothic to Renaissance to Islamic. Each was superimposed on a symmetrical central bay elevation [2] or on a complex chateau-like structure completely alien to the local context [3].

Besides the versatility of its vocabulary and syntax, the triple arch was also a multifunctional elevation feature. Although perceived mainly as a *balcony bay*, the central bay was equally used as an *entrance bay* [9], [10], [11], and as a *window bay* [12], [13], [15]. In the case of exclusive mansions, the entrance bay was recessed, raised and preceded by a grand entrance staircase [9]. In the case of middle-status residences, it was set flush with the building mass and opened directly on to the garden [10]. In both cases, the same aggregate and modular language is used; only the spatial syntax changed according to building status. Another component of the triple arch was the elongated arched opening on top of door and window modules, which was a frequent feature in both upper and lower-cost buildings [11] .

The *window bay* was usually located on the ground floor elevation bordering a sidewalk. In [12], it is formed by three window modules topped by three arched openings. In [13], a new form is used, the arched window, which is a partial integration of a window module and an elongated arched head.

Triple Arch as Synthesis Form

The complete integration of window, door and arch is reached in the arched bay (commonly referred to as triple arch, or triple arcade), which may be qualified as a synthesis form and also as an autonomous form having its own attributes and syntax. Its main components may be identified as follows:

1- AN UPPER SECTION, or arched head, usually incorporating decorative tracery and colored glazing, ranging from simple curvilinear patterns to complex scroll motifs and foliated designs [14].

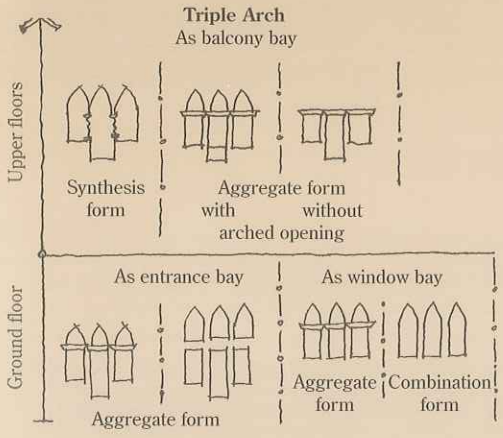
2- AN INTERMEDIATE SECTION, in the shape of a rectangle horizontal bay, exhibiting patterns of decorative tracery at the arched head [14].

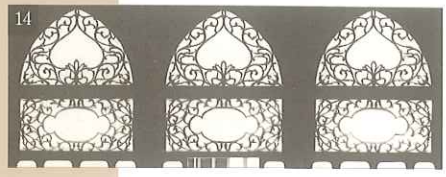
3- A LOWER SECTION formed by door and window lights. It is worth noting that central bay lights, as opposed to other openings in the elevation, were characterized by rounded corner chamfers.

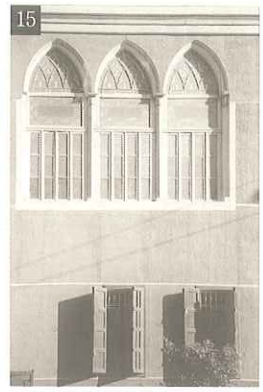
4- THE VERTICAL SUPPORTS consisting of slender marble columns, visually unobtrusive, and insuring a smooth visual transition from one bay to another, while encouraging the reading of the central bay as a single unit.

Finally, the central bay is not confined to the single function of balcony bay; it can be used as window bay as shown in [15]. It has also the flexibility to accommodate two arcades as well as three [16], depending on frontage and central-hall widths.

VOCABULARY AND SYNTAX OF THE TRIPLE ARCH







As opposed to mansions, where massing was concealed by an exuberance of enriched ornamentation, high bourgeois residences used ornamentation selectively to frame main façade elements, such as central bay and windows, or to reinforce the horizontal and vertical articulation of the elevation through belt courses and quoins. This relative austerity and restraint enhanced the background of ashlar masonry and pointed out to the high level of craftsmanship involved in executing elevation stonework. The use of marble was also selective and limited to central-bay columns and balcony slabs. High vernacular structures consisted of spacious apartments or "stacked villas" for extended family. Each floor was accessed independently with its own exterior staircase [Box 5.1b]. The ground floor was either raised or opened directly to a front garden. Mainstream vernacular structures shared the same properties; however, they were smaller and exhibited less elaborate detailing [5].

Finally, the flat-roof suburban house and the farmhouse were characterized by a simple elevation, sometimes incorporating a diagrammatic central bay with small and unadorned window openings [6], [7]. They were executed by craftsmen who followed the conventional ways of building. The material of construction was local sandstone plastered and painted for weathering. The house usually opened on a garden with a fountain in the middle, aligned with the entrance bay [7]. In some cases flat-roof suburban houses exhibited refined ashlar stonework comparable to upper-status structures [7], which proves that the above classification should be used with flexibility.

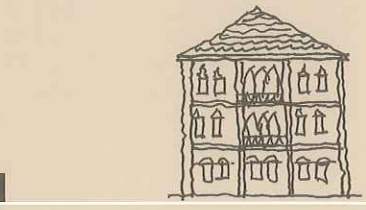
Urban Façade Types

With the continuing urban growth and the increasing urbanization of the periphery, suburban residential types either declined or underwent a process of change to adapt to new functional constraints and siting conditions. By the first decade of the twentieth century most suburban mansions were already built, mainly in Achrafiyé and Zokak el Blatt areas. Luxury apartment houses (or superposed villas) emerged as an alternative residential type for the rich [Box 5.3a]. They were either street-aligned or freestanding in the middle of medium to large-size lots clearly demarcated from the street by elaborate fences. An early and unique example of the first type is the building shown in [17], which dates back to the late 1880s. It is one of the earliest luxury apartment houses built on what was considered the outskirts of the city (Mar Mikhael) along a main communication artery, rue du Fleuve (or old Tripoli road). The street façade is clearly articulated through the use of pilaster strips and belt courses. The triple arch is framed by hood moulds, and windows are surrounded by flat bands topped by neo-classical segmental pediments. The ground floor elevation is differentiated from the upper elevation by a row of windows with arched head, tied together by a horizontal flat band. The balanced composition, the sophisticated eclectic vocabulary mixing traditional and neo-classical features, and the precise stonework, point to the possibility of participation of a European architect backed by skilled local master builders and craftsmen. The façade is executed in exposed ashlar masonry. Similar eclectic detailing was also executed with smooth plaster, as observed in early twentieth-century luxury apartment buildings [18].

Less elaborate, but possessing the same quality of finish, were the upper-cost apartment houses [Box 5.3b], which served mainly as extended family residences. They shared the same characteristics of the nineteenth-century suburban apartment house except for their street-aligned elevations, the integration of vertical circulation within the building, and the provision of a single common entrance at the

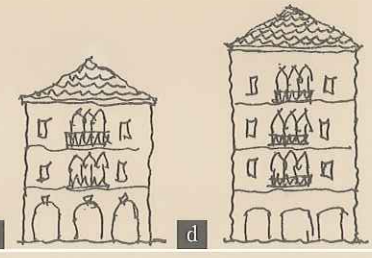
BOX 5.3
UBAN FAÇADE TYPOLOGY

[a] supra-vernacular scale: luxury apartment house



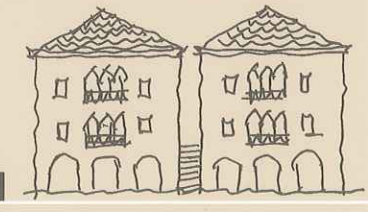
[b] high vernacular scale: upper-cost apartment house

[c] mainstream vernacular scale; middle-cost appartment house with street-level commercial use
[d] same as [c], extended vertically

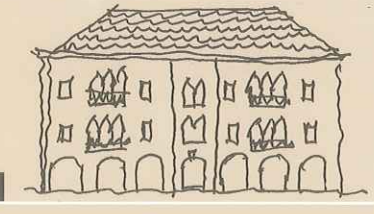


[e] to [g] same as [c]: extended horizontally

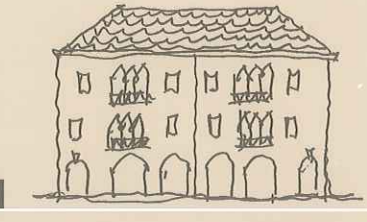
[e] detached buildings with common fill-in staircase



[f] detached buildings with common integrated staircase and roof



[g] semi-detached buildings with independent staircase and common roof

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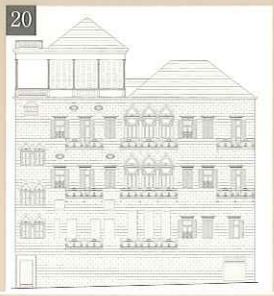
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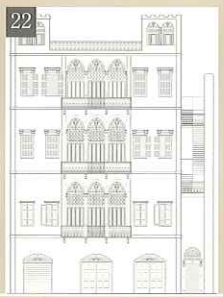
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ground floor. The Kazan building [19] includes some elaborate and exclusive detailing of window lintels [Ch.9B: 10,11]. However, the framing of the triple arch and its overall architectural composition are kept simple. The same holds true for the Nsouli building [20] which, although larger in size, exhibits the standard traditional features with no attempts at integrating imported revival styles.

As opposed to upper-bourgeois structures, mainstream residential buildings [Box 5.3c] underwent a fundamental change of function: the street-aligned ground floor was allocated for commercial activities, clearly expressing the new vocation of the urban apartment building as a speculative structure. Such buildings were mainly concentrated along important arteries, like rue Gouraud, rue Basta and rue Bliss. They were two to three floors high with large arched openings on the ground floor for shop fronts.

Horizontal and Vertical Extensions

Some of these buildings were extended vertically to accommodate three residential floors above street level [Box 5.3d], [21], [22], [23]. Such structures may be qualified as "high-rise" walk-ups, due to the towering impression they convey when built on narrow frontage sites. In some cases, the roof was kept flat in order to build a "summer" room *(masyaf)*, also called "airplane" room *(aoudat tayyarah)*, due to its commanding view on the surroundings.

Sites with a wide street frontage, were usually occupied by two identical detached structures with a narrow space in between for an open air distribution staircase [Box 5.3e], [24], [25]. In other structures, the stairwell was integrated between the two buildings under the same pitched roof [Box 5.3f], [26]. Another typology of twin buildings consisted of semi-detached structures, with a party wall and independent staircases. They were covered with the same pitched roof as a single entity [Box 5.3g], [27], [28]. The typology of attached and detached structures was applied equally to residential buildings with and without street-level commercial use.


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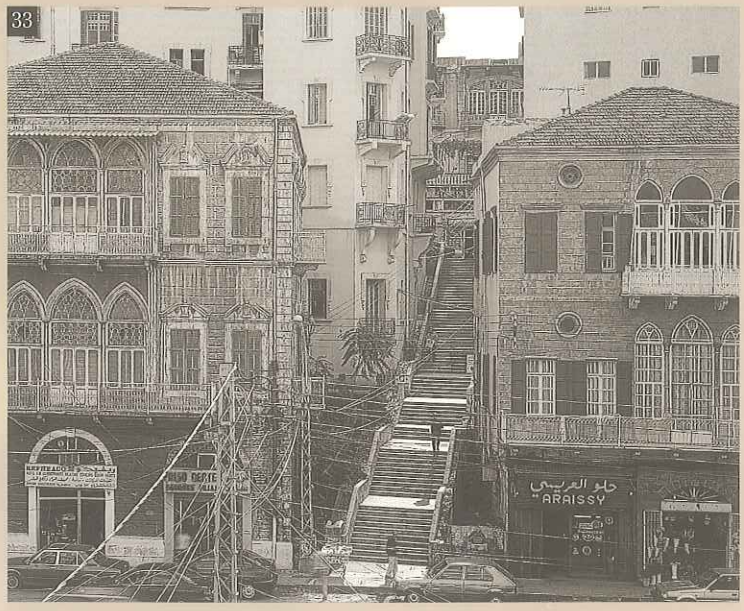

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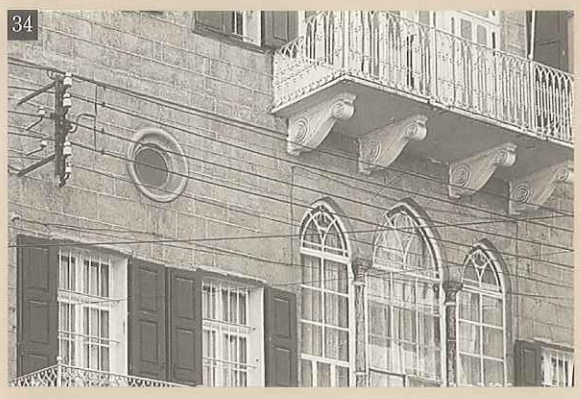
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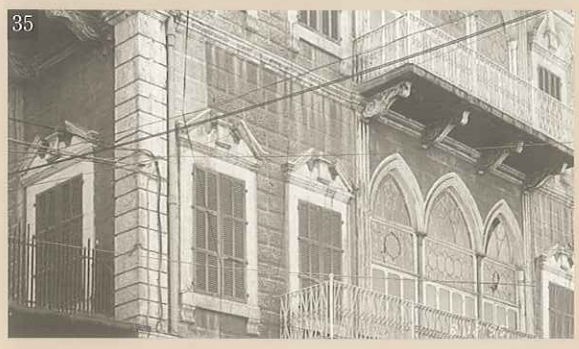
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Adaptation to Urban Sites

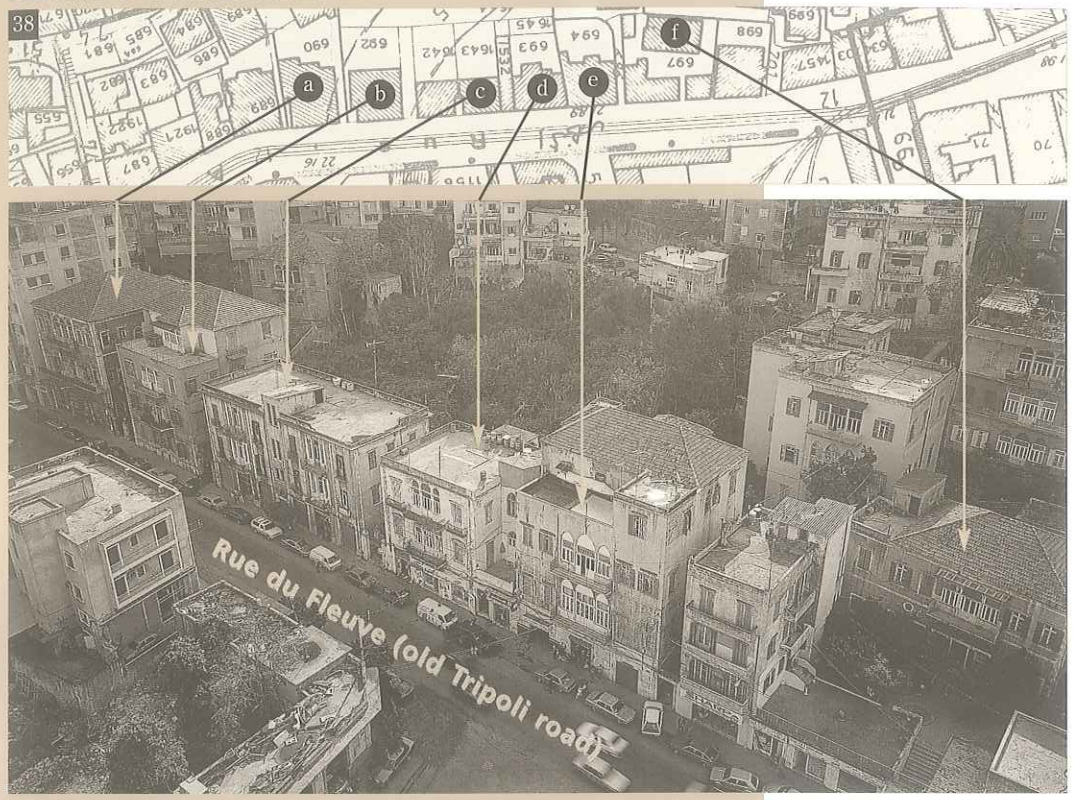
At the turn of the century, attempts at maximizing building footprints already were common, under the impact of increasing urbanization. The building in [29] occupies an elongated site at the narrow intersection of rue Omar Daouk and rue de Phenicie. It consists of two attached buildings with a common pitched roof. The structure was extended to fill the pointed corner of the site [30]. Another example is located at the intersection of rue Mar Mitr and rue Debbas [31]. In order to adjust the rectangular building envelope to the tilted street alignment, a projecting pier and cantilevered volt were used on the lateral side of the ground floor.

Lower-cost structures often occupied small leftover sites or oddly shaped lots between streets intersecting at a narrow angle [32]. Sometimes such buildings reached four floors in height. In other cases, when a frontage was not wide enough to accommodate two attached structures, one wing of the central-hall plan was cut. The result was a paired triple arcade [28].

From Ashlar Masonry to Stucco Ornamentation

During the second decade of the twentieth century, the use of ashlar masonry declined in high and mainstream vernacular buildings. Poor quality sandstone

BOX 5.4
CENTRAL BAY STREETSCAPE



A distinctive streetscape, facing Electricité du Liban, exhibits in less than 150 meters the evolution of central bay structures from traditional family house to early modern apartment building. As mentioned before, the high concentration of traditional and transitional structures along rue Gouraud - rue du Fleuve reflects the linear growth of the city during the Late Ottoman and French Mandate periods, due to the presence of the tramway line along old Tripoli road.

Building ⓐ : Late nineteenth-century luxury apartment house; Boustany building, D.O.C. 1880s; also [17].

Building ⓑ : Early twentieth-century upper bourgeois apartment house; Tobbagi building, D.O.C. 1908.
Buildings ⓑ, ⓒ and ⓓ were built by Dr. Habib Tobbagi before his death in 1936. He acquired, at the turn of the century, a large piece of land with a wide frontage on old Tripoli road. The location was considered then as the fringe of the city. Building ⓑ is condemned by a planned junction between the inner ring and avenue Charles Helou (see map above). The junction will equally cut through the front corner of building ⓐ and the back corner of building ⓒ.

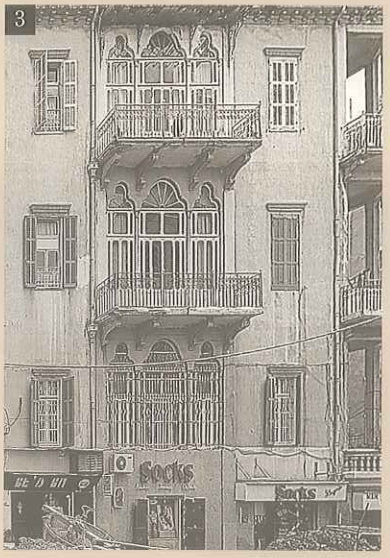
Building ⓒ : Late transitional - early modern apartment building Tobbagi Building, D.O.C. 1934.
It includes street-level commercial uses and two medium-size dwelling units per floor. The building was considered unusual upon its completion, due to its simplified central bay design departing from the customary arched openings. People qualified the style of the buildings as "*moderne*" (pronounced in French). It is one of the earliest buildings to have included a large bathroom *(hammam frangi)* between bedrooms in *medium-size* apartment buildings. Usually, the *hammam frangi*, or Western-style bathroom, was confined upon its introduction in the early 1930s to large size-apartments.

Building ⓓ : Mid transitional apartment building Tobbagi Building, early 1930s [Ch. 6: 9].

Building ⓔ : Early twentieth-century urban apartment house. An example of early speculative buildings with ground level commercial uses.

Building ⓕ : Early twentieth-century suburban house. Shops built in setback are a later addition.

took over and made external plastering a necessity. A new trend emerged, referred to below as neo-traditional, consisting of reproducing stone courses and surface ornamentation with incised and painted stucco. This movement, bordering on the baroque, freely applied neo-classical and renaissance revivalist detailing on traditional central bay elevations. A good comparison between the traditional and neo-traditional style is provided by two apartment buildings framing daraj Mas'ad at the intersection of rue du Fleuve and rue Pasteur [33], [34], [35]. The building to the right exhibits the simple vocabulary of traditional facades with exposed ashlar masonry, stone corbels, wrought iron balustrades, minimal horizontal and vertical articulation of the elevation and no framing of openings. The building to the left is a prototype of the neo-traditional style, with stucco finish imitating stone courses. Floors are clearly outlined by moulded stone courses, central bays by vertical bands, triple arcades by hood moulds, building corners by rusticated quoins, and windows by flat jambs and elaborate broken pediments. Usually neo-traditional buildings exhibited a different pediment design on each floor. A unique example of a neo-traditional streetscape is the north and south frontage of rue Gouraud, between rue Georges Haddad and the Collège du Sacré-Cœur, where two twin buildings on each side of the street form a highly distinctive gateway to the Gemmayzé area [36], [37].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D.O.C. 1924

chapter 6

Central Bay Buildings

Transitional Phase

2

Courtesy of Fouad Debbas

1

Early Transitional Phase

Concrete started infiltrating residential construction during the first half of the 1920s, mainly in upper-cost structures. The resulting changes that occurred in massing and façade treatment may be summarized as follows: 1- the decline of red tile roofing, 2- the progressive replacement of the triple arch by alternative designs and shapes [Box 6.1], 3- the disappearance of hood moulds and plastered bands outlining structural openings, and 4- the use of plain stucco finish for external walls. These changes are clearly illustrated in two supra-vernacular structures built in 1924.

The first example is a three-floor apartment building adjoining the Ecole des Frères on rue Gouraud [1], shown in an advanced stage of completion in a 1923 postcard [2]. The central bay has a horseshoe triple arch; first floor balconies are sustained by massive conical supports in lieu of corbels (locally referred to as *kirseh* or chair). A clear differentiation exists between the rectangular shapes and incised surface of the ground floor and the plain wall treatment of upper floors. Similar changes in the triple arch head are seen in early 1920s buildings [3].

The Barakat building on rue de Damas [4] is the second structure that clearly sets the new image of early transitional apartment buildings, shedding aside such long-rooted features as the red tile roofing and the pointed arch bay. The roofline is outlined by a protruding cornice held on ornate brackets, and the traditional central bay was transformed into a yellow stone rectangular opening with no arched head. This gesture contrasted the plain stucco finish of the wall and the massive corbels of the balcony (one of the largest amidst residential buildings of that period). This avant-garde/architect-designed structure (Yussef Aftimus) is both unique and archetypal. It sets a trend and provides an example for other buildings to follow, while keeping its own character especially in terms of siting. It is formed by two identical structures, one facing rue de Damas and the other rue de

BOX 6.1

CENTRAL BAY: CONTINUITY AND CHANGE

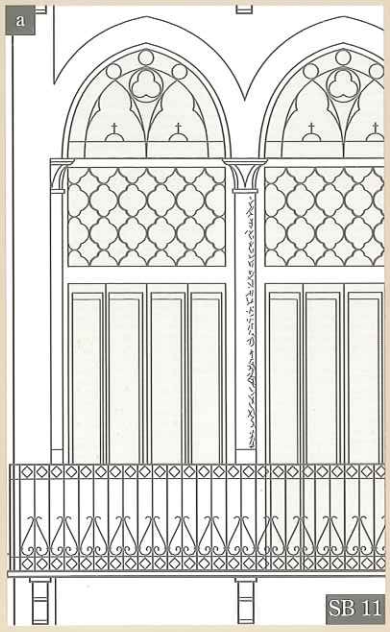
The dominant image of the central bay remains associated with the triple arcade, despite the fast and multifarious changes it underwent in the 1920s and 1930s [a-x]. The question remains: How far were Mandate transitional forms rooted in a common syntax pertaining to the triple arch, and what was the pattern of continuity and change underlying these formal transformations?

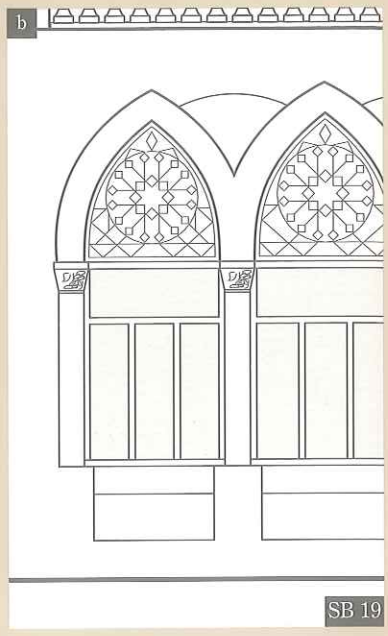
As stated in the analysis of the triple arch (Box 5.1), the arched bay was divided into upper, intermediate and lower sections consisting respectively of an arched opening, a fixed rectangular opening and window and door lights. The lower section was least impacted by the successive changes; only the widths of lights were modified, following the vertical subdivisions of the arched head.

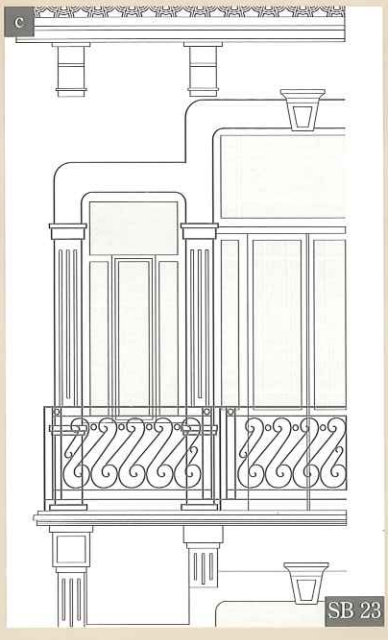
In contrast, the arched head, which gave the central bay its visual identity and dominant style, was subject to extensive variations, ranging from horseshoe to elliptical arches to square heads [c, f, j, r). In a final stage, the upper section disappeared [f, v, w, x], due to height restrictions and early modern influences.

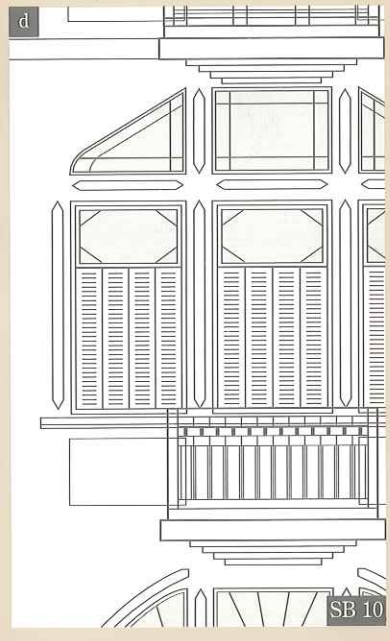
Another major change occurred in the vertical and horizontal continuity of the triple arcade. Marble columns were replaced by square concrete piers [l] or by plain bands with or without surface incisions [c, q, r]. Horizontally, arched heads were separated from intermediate and lower sections either by continuous lintels [u] or by plain horizontal bands [q, w]. The arched bay lost its visual fluidity and started reading as a solid panel with cut-out shapes [c, d, q, t], as a single frame subdivided vertically [c, s] or as an agglomeration of different opening types [r].

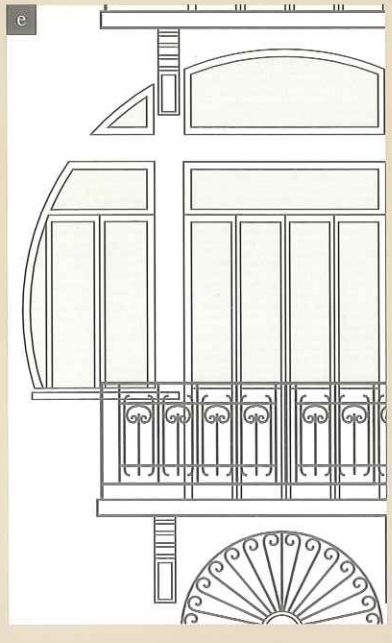
The overall fragmentation of the composition and its underlying transitional forms did not work against the visual prominence of the central bay, nor did they lead to visual chaos. The concern for originality in designing the central bay was a clear indicator of its prominence, which guaranteed the individual character of an elevation. On the other hand, the simple massing and the unified geometric shape of windows provided a common and unifying background and an essential element of continuity among different buildings and the streetscape.

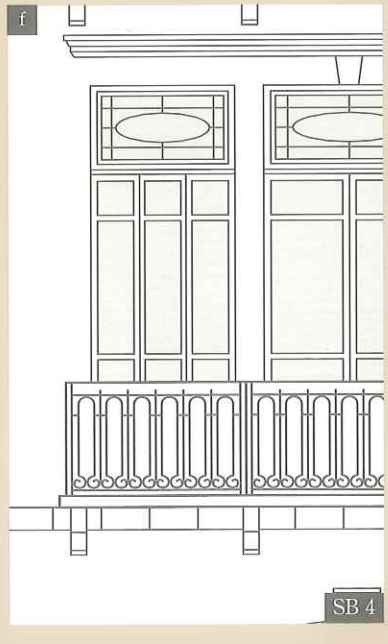


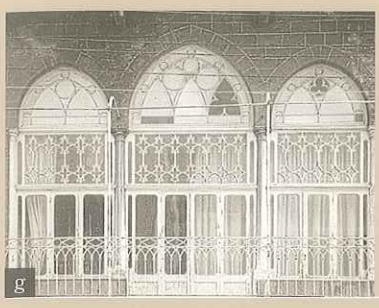


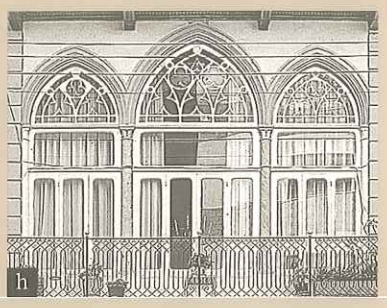




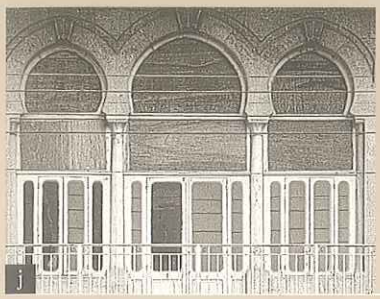


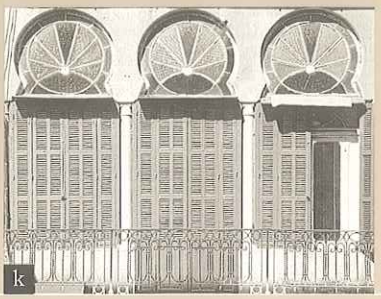


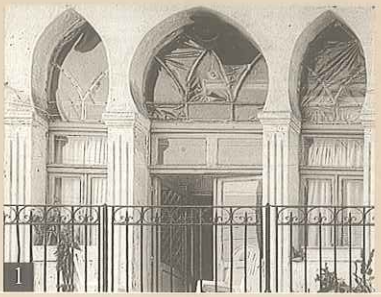




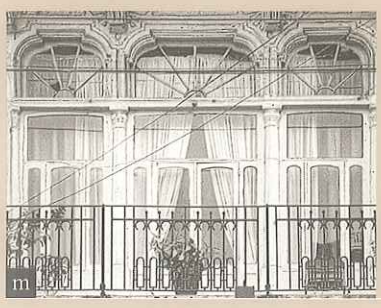
Variations on the triple arch
[g] traditional example in ashlar masonry; also [a], with plain stucco finish.
(h) neo-traditional version with hood moulds.
[i] stylized transitional version in concrete with triple arch reduced to a diagrammatic shape; also [b] ,with arabesque tracery and thick stone columns.

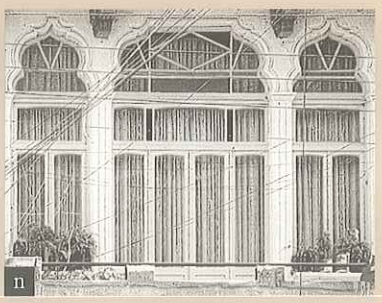


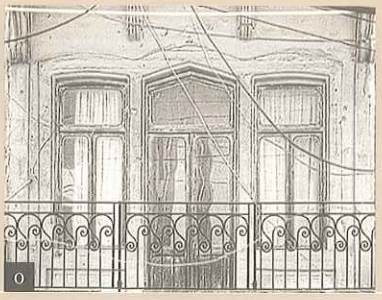




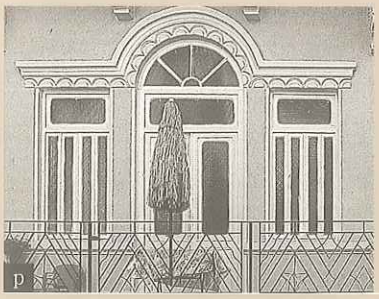
Variations on the horseshoe arch
[j] pointed, incorporating keystone.
[k] Neo-Moorish, with colored glazing.
[l] heavy-handed design in concrete, with bold cut-out arches and square pillars replacing marble columns.

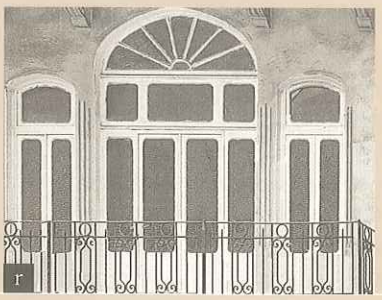




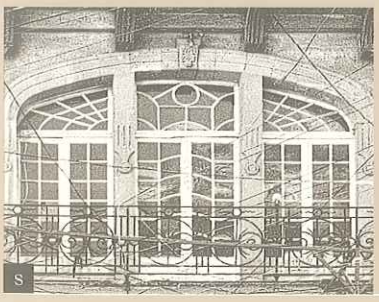


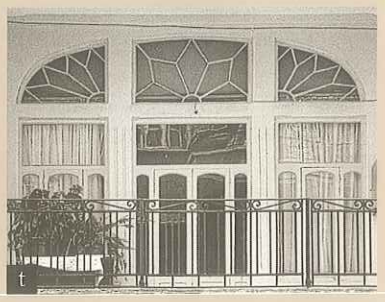
Variations on shouldered/ogee arches and simple triangular openings
[m] chamfered shape framed with elaborate moulding.
[n] shouldered ogee extended horizontally in midsection.
[o] simple triangular head with slightly curved bay on each side.

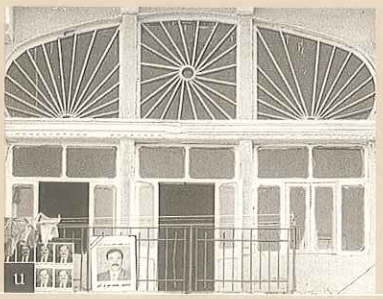




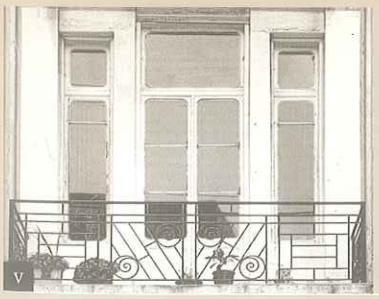
Palladian bay
(from Palladian window)
It consists of a central arched light and narrower square-headed light on each side. A fashionable shape, equally used for portals.
[p] mid transitional version with moulded lintel.
[q] late transitional example: absence of ornamental treatment.
[r] free interpretation ; also [c].

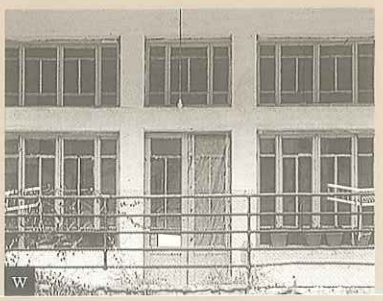


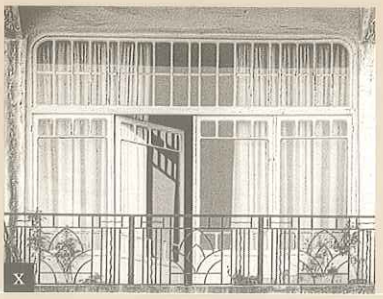




Segmental and three-pointed arch
The most prevalent shape after the triple arch, with numerous variations.
[s] elaborate example with yellow stone frame, keystone and unique design of tracery.
[t] simple geometric cut-out shape; also [d] and [e], with circular frame extended to lower section.
[u] Free interpretation of arched head with oriental touch, due to horseshoe extension.







Simple rectangular shape
It occurs during the late transitional-early modern phase; arched head disappears.
[n, w] plain rectangular modules of doors, windows and upper lights separated by vertical and horizontal bands; also [f].
[x] single rectangular opening announcing the use of the *baie vitrée*.

l'Indépendence, which are tied together by a ground floor of shops built to the street line with a common corner entrance. The spectacular corner verandas, which are often mistaken as an original part of the building, were designed by another architect in 1932 (Fouad Kozah), along with an important concrete extension in the back of the building.

Next to the Barakat building on rue de l'Indépendence, a four-floor apartment building exhibits the same façade style [5] with another variant of the central bay: a segmental arch in yellow stone with two simple vertical supports replacing the traditional marble columns [6]. This design of the central bay became highly popular in the following years and was imitated in concrete, with a large number of individual variants [Box 6.1 s, t, u].

Mid Transitional Phase

With the constantly increasing use of concrete in superstructures and elevations during the second half of the 1920s and early 1930s, a high eclectic phase prevailed. Tied to an unprecedented spread of imported architectural styles, this phase also witnessed the emergence and fast expansion of two new elevation types: the veranda and the bay window types, in addition to the prevailing central bay type. All three types shared a similar architectural vocabulary induced by cast-concrete ornamentation. Central bays were progressively liberated from their load-bearing function. Thus, it became possible to reproduce, through casting, a large palette of forms ranging from the pointed to the segmental and to the shouldered arch [8q]; see also [Box 6.1] for detailed overview. These multiple shapes may be grouped into two broad categories: the triple head retained from the triple arch; and the single head based on the segmental, three-pointed and basket-shaped arch. These two categories were sometimes applied in the same elevation, especially in mainstream and basic vernacular structures [10].

Another innovation was the introduction of the French window (*porte-fenêtre*, or door-window) which opened on a small balcony, adding a new level of articulation in façade composition [Ch.9B]. As compared to the neo-traditional phase, the use of horizontal and vertical divisions in elevations declined, and the external wall treatment was

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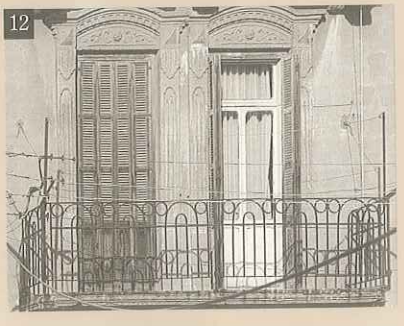

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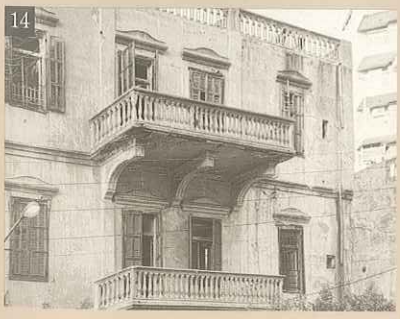
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confined to painted plaster with no incisions. The roofline was highlighted either by a cast-concrete balustrade [10], [11] or by a plain cornice [7], [9]. The trend of different window trims on each floor, which was a mark of the neo-traditional elevation, continued during the mid transitional phase [9]. In summary, the neutral background helped to reinforce the decorated surrounds of windows and central bays, as well as the various patterns of wrought-iron and cast-concrete balustrades. This contrast between background and foreground is better illustrated in balcony and bay window buildings [Ch.7], [Ch.8].

Adaptation to Urban Site

As during previous periods, narrow and odd-shaped sites in key locations were usually saturated with construction. In the absence of a detailed building law stipulating the size and shape of substandard lots, the resulting solutions were indicative of the level of flexibility of central hall buildings in adapting to varying site configurations. The four-storey building shown in [11] (rue Makhoul, parallel to AUB) provides an example of the high demand for urban housing during the 1920s and 1930s. The façade occupies the full width of the lot (accommodating one room). The central bay was replaced by two French windows [12] with elaborate cast-concrete framing, seen in other city locations [e.g., SB 15]. The same frame design was applied on all openings on street and side elevations. However, it should not be concluded that the French window was a cost-cutting replacement for the central bay; it was also used deliberately in mainstream and high vernacular buildings [14]. Another example of a restricted site is shown in [13], where a slightly wider frontage allowed for the accommodation of a double-arched bay.

Vertical Extension

The use of concrete skeleton structures starting in the late 1920s and early 1930s increased the flexibility of incremental vertical growth of residential buildings. The extension of concrete columns above roof level with railed balconies, usually indicated the intention of the owner to add another floor at a later date [15]. Prevalent examples of four-storey structures correspond to the maximum height of walk-up apartment buildings. However, five-storey walk-ups can be found in some key locations, like rue Gouraud [16].

Late Transitional and Start of Early Modern Phase

In 1930, the import of cement was complemented by local production [Ch. 2]; concrete became the standard material of construction for urban apartment buildings. Meanwhile, the high eclectic styles of the mid transitional period reached a maturation stage characterized by: 1- refinement of architectural ornamentation, 2- the adoption of contemporary styles, such as Art Deco and Art Nouveau, and 3- a progressive simplification of forms under the impact of early modernism.

The imitation of Neo-classical, baroque and Neo-Islamic styles declined. The British-inspired Neo-Palladian bay became a distinctive feature of luxury apartment buildings, with an elaborate treatment of corbels and wrought-iron patterns [17] and [Box 6.1p]. The Palladian bay also appeared in middle-size rental apartment buildings; however, it was stripped to its basic diagrammatic expression [18] and [Box 6.1q].

Already, during the first half of the 1920s, Art Deco and Art Nouveau were used sporadically in portal details and wrought-iron balustrades. However, the late transitional phase witnessed the application of both styles to full elevations, in an orientalizing way [19]. The best manifestation of these styles occurs in bay window buildings [Ch. 8].

The third stylistic direction was an early modernism tinted with Art Nouveau and Art Deco details in the design of balustrades and vertical bands outlining structural openings. One of the avant-garde buildings, in this respect, is the Tobbagi building built in 1934 [20] and [Box 5.3c]. Here, the French windows lost their framing and lintel mouldings, and the central bay was reduced to three rectangular openings [Box 6.1v]. In later buildings, the central bay was expressed as a single glazed bay with simple geometric subdivisions [21]; see also [Box 6.1].

Finally, the increasing price of urban land, as early as the 1930s, led to the construction of dense rental complexes comprized of three attached buildings [30] and to the vertical stacking of small units on extremely restricted sites [22] and [23]. In the first case, on rue du Fleuve (old Tripoli road), a one-room/balcony elevation was fitted onto a narrow and deep site. In the second case, an elongated five-storey building, one room deep, was accommodated on a shallow site on rue Monot.


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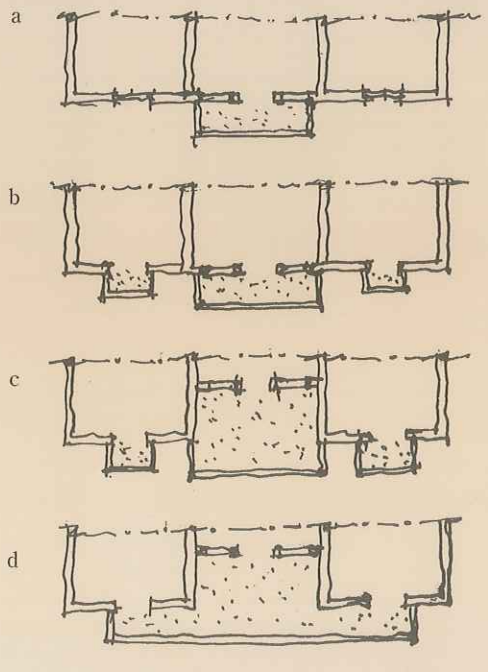


Recessed Central Bay Buildings

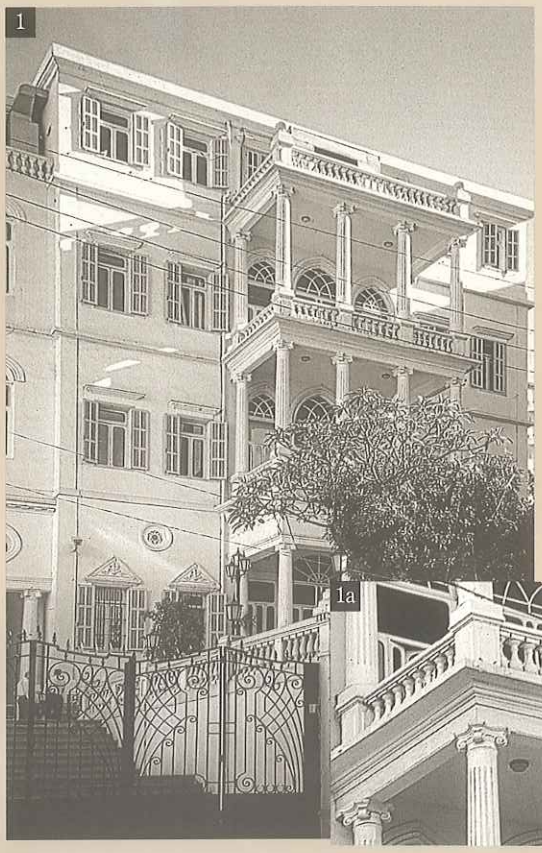
As mentioned before, the use of reinforced concrete for superstructure liberated the exterior envelope from its load-bearing function. Therefore, it became possible for the central bay to be recessed in order to gain an enclosed veranda. Drop beams with corbels became apparent and were either articulated [24] or left plain [25]. At a later stage, corbels and drop beams disappeared; the veranda was either trimmed at the surface of the elevation [26] or protruded as a cantilever slab [27]. Finally, the side balconies and central veranda were integrated into a continuous veranda/balcony running across the full width of the elevation [28].

In summary, the evolution of central bay elevations passed through four stages [29]:
[a] Traditional elevation with corbelled balcony.
[b] Transitional elevation with corbelled balcony and French windows (door-windows).
[c] Transitional recessed central bay elevation with French windows.
[d] Early modern recessed central bay elevation with continuous veranda-balcony.


FRIDAYS

31 Masabni building

32 Daouk building
D.O.C. 1925 and 1930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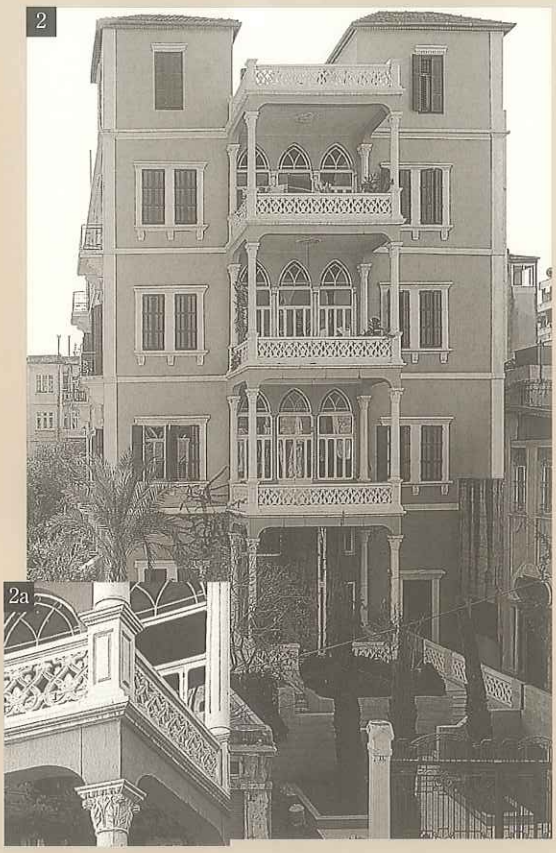
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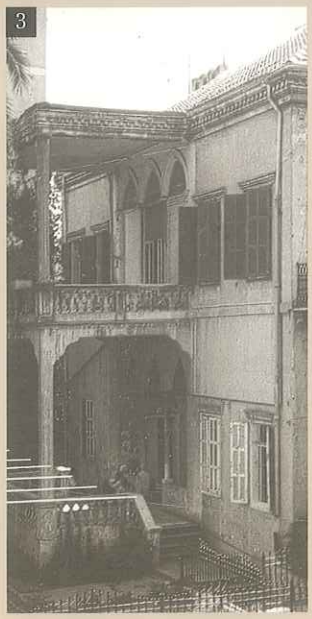
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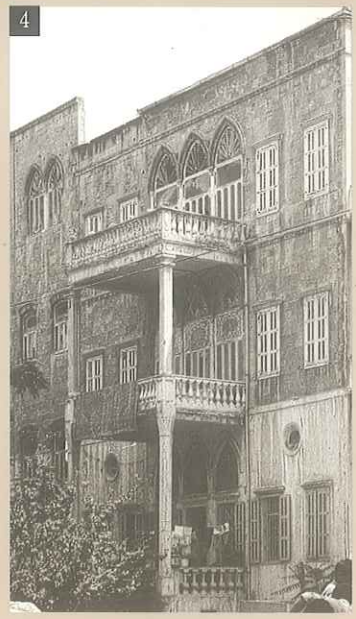
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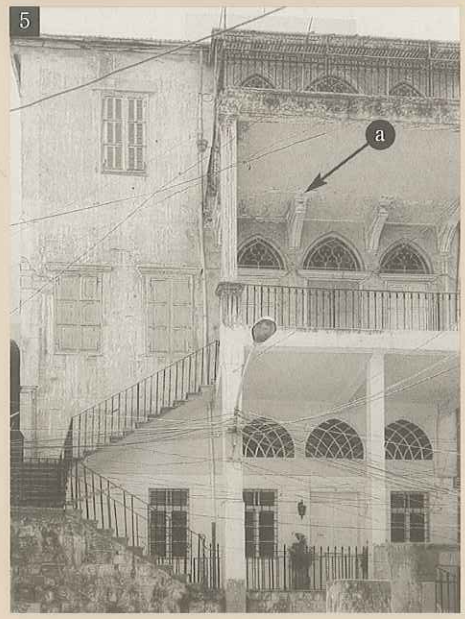

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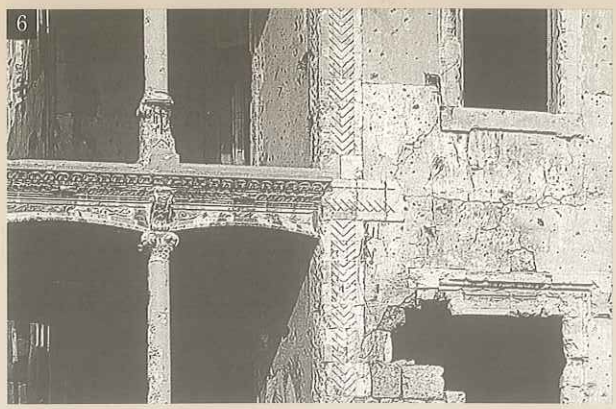
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chapter 7

Veranda Buildings

Veranda is defined as a roofed platform above ground, supported by columns or pillars, while balcony is a protruding platform with or without a roof, supported by brackets or cantilevered out from the face of a building. Classifying veranda buildings is a difficult task, due to the extreme variety of models generated through the use of reinforced concrete between the mid-1920s and mid-1930s. However, two basic categories may be outlined: 1- the veranda as an added feature (mainly to traditional stone-bearing structures) and 2- the veranda as an integrated feature in the design of concrete transitional structures. The second category underwent the usual evolutionary process, from a early eclectic phase characterized by simple structural and aesthetic solutions to a more complex intermediate phase characterized by a multiplicity of shapes and styles and, finally, to a late transitional phase with Art Nouveau and Art Deco detailing and an overall simplification of forms induced by the early modern influences. This chapter investigates this evolutionary process, taking into consideration three main issues as the analytical framework of reference: 1- the structural and stylistic properties of veranda buildings, 2- the veranda's relationship with the central bay and the façade itself, both formally and functionally, and 3- the adaptation of veranda buildings to their urban sites.

Veranda as Addition

The veranda is a concrete creation of the mid-1920s. Its use was encouraged by the import of cement and the initiation of local production in 1930 [Ch. 2]. The veranda was perceived by builders and clients as a modular component which could be added to a building after its completion. Accordingly, many traditional apartment houses adopted the reinforced concrete veranda during the second half of the 1920s as a replacement for the corbelled balcony, in order to maximize outside sitting space. High-style additions incorporated both elaborate detailing and a careful integration with the elevation. Styles ranged from neo-classical [1], [1a] to a toned-down eclecticism [2], [2a]. In both cases, they were superimposed to the traditional triple arch elevation. Verandas either reached the base of the pitched roof [3] or stopped at the last floor, leaving the upper platform uncovered [4]. In some lower-cost structures, balcony corbels were left apparent in the background, then covered with the projecting concrete slab of the veranda [5a]. It is interesting to note that verandas with attached staircases were used for vertical circulation and front accessibility to upper floors. The most spectacular addition remains the corner structure designed by architect Fouad Kozah in 1932 for the Barakat building [Ch. 6: 4]. As mentioned before, this structure may read at first sight as an integral part of the building. It takes close observation to check the connection detail between the original load-bearing wall structure and the veranda skeleton structure [6]. Furthermore, the veranda was used by the architect more as an aesthetic device for connecting masses than as a functional extension to the inside. Another original example is shown on page IX of this book, where a massive multi-level concrete arcade is constructed in front of a blind party wall. It was connected to the adjoining traditional apartment house through a simple but peculiar detail [7].


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Central and Corner Verandas

Veranda designs varied in complexity according to: 1- the shape and position of the platform, 2- the treatment of the vertical and horizontal supports and 3- the styles applied to balustrades, columns and beams. The simplest veranda shape consisted of a rectangular platform sustained by a straightforward skeleton structure. The degree of surface ornamentation and detailing differentiated one structure from another. Rectangular verandas were used in vertical buildings [8], as well as in horizontal ones [9]. They are also found in composite buildings with a traditional ground floor and transitional upper floors [10]. More sophisticated designs were introduced at a later stage, consisting of four vertical supports instead of two [11], with curved corners or fronts [12]. The Masabni building located strategically at a wide intersection in Furn el Hayek [Ch.6: 31] exhibits two semi-circular verandas per floor with multiple supports, crowned by a bracketed cornice and an Art Deco indented parapet. In a small number of buildings, the central bay is recessed with a protruding veranda, as shown in the Art Deco building in [13].

Central verandas were sometimes replaced by corner ones located on each side of the projecting central hall. A well-composed building pertaining to this type is shown in [14]. The façade conveys a strong sense of frontality and cohesiveness, despite the variety of detailing. Another high-style structure with corner verandas is the Ingea building [15]. Bracketed balconies with Art Deco wrought-iron balustrades are added both to corner verandas and to the central bay [Ch.9: C, D3].

The same strategy is followed in central verandas. In order to increase the width of the platform, either a bracketed balcony [16] or a curved cantilevering slab was attached to the front [17], [24b], also [SB12], [28a-b]. This latter solution was widely

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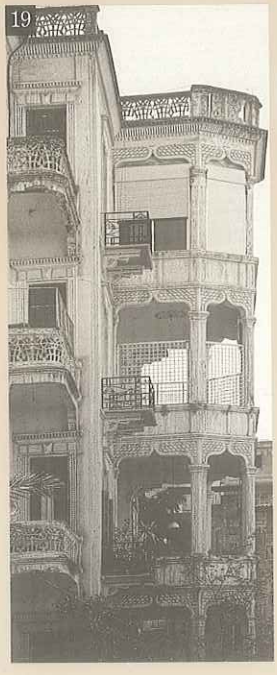
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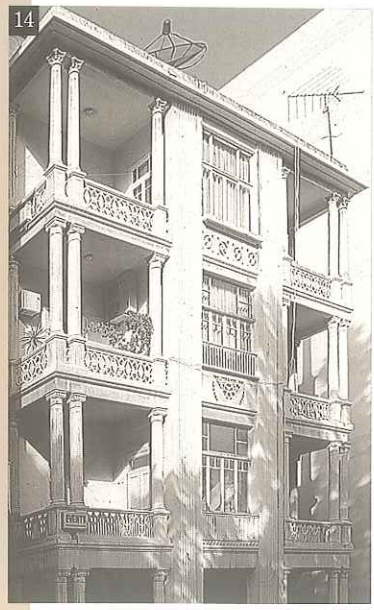
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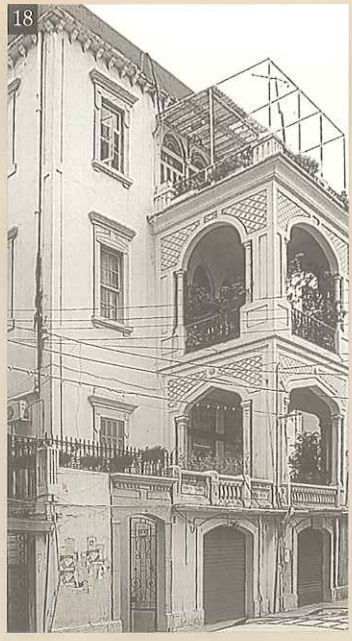
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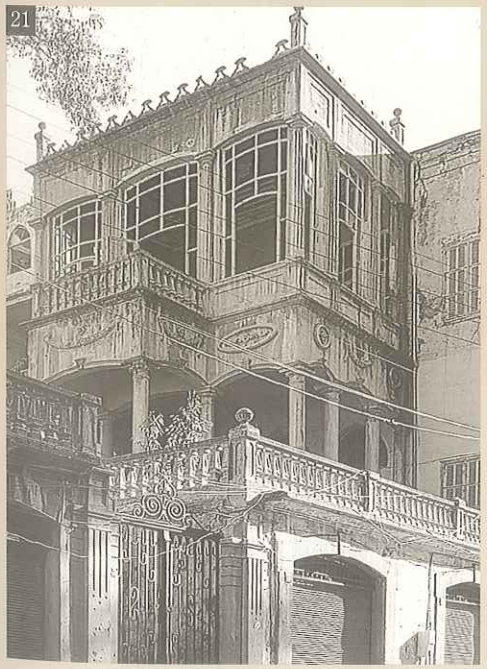
adopted and gave rise to many individual interpretations. It is characterized by extensive low-relief embellishments added to beams, in addition to elaborate columns with fluted shafts and foliated capitals [35].

An alternative solution to column and beam embellishment consisted of framing the front and sides of the veranda with arched cut-out concrete panels with incised decoration on their spandrels. This approach varied in design quality, level of ornamentation and integration to elevation, from supra and high vernacular buildings [18], [19] to basic vernacular and lower-cost structures [20]. Key buildings in this category are two avant-garde Neo-Ottoman structures designed by Aftimus in 1925 and 1930 for Omar Daouk [Ch.6: 32]. The first structure, situated in the middle of a raised garden, exhibits one of the earliest paneled verandas in Beirut (with different cut-out arches on each floor). This trend would spread, with the advanced use of concrete, in elevations during the late 1920s and early 1930s. The second structure, bordering the street, has a unique central bay elevation, with semi-engaged deep balconies, framed by a three-storey cut-out arch, with a corner tower sustained by highly elaborate brackets.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A peculiar design solution is found in Furn el Hayek [21], where a veranda addition reads as an autonomous and imposing mass, open on the first floor and enclosed on the upper level with large glazed openings and a small protruding balcony. A close-up [36] reveals low-relief festoons embellishing the spandrels.

From such heavy-handed solutions, the central veranda would reach, during the late transitional period, a simple elegance and a slender profile based on a watered-down interpretation of Art Deco detailing of horizontal and vertical supports [22].


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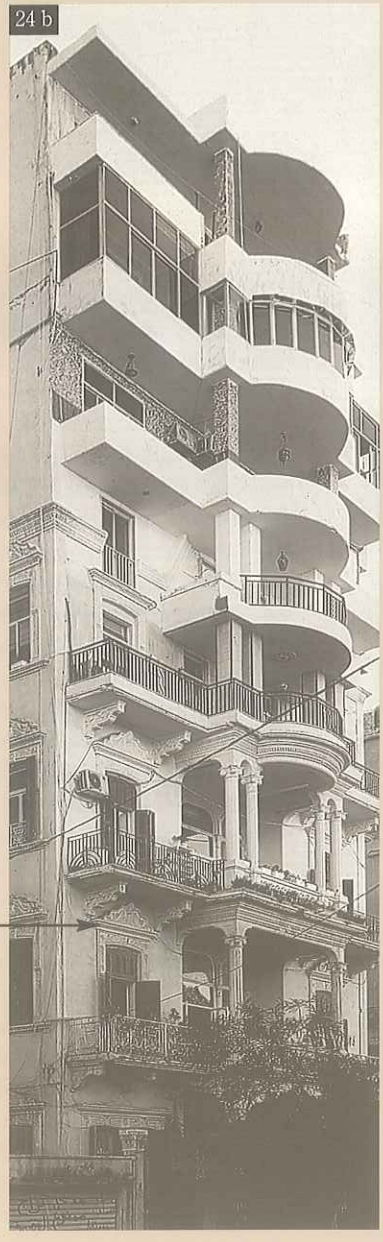
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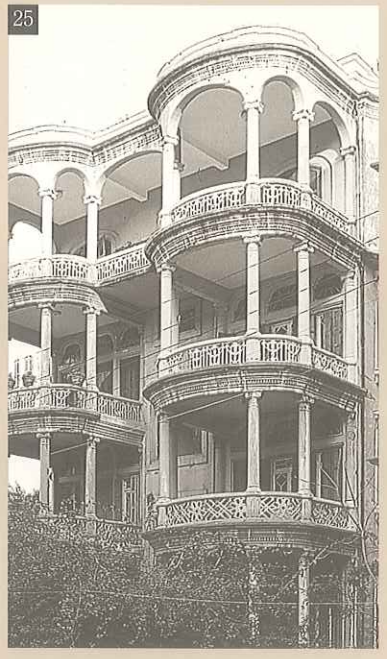
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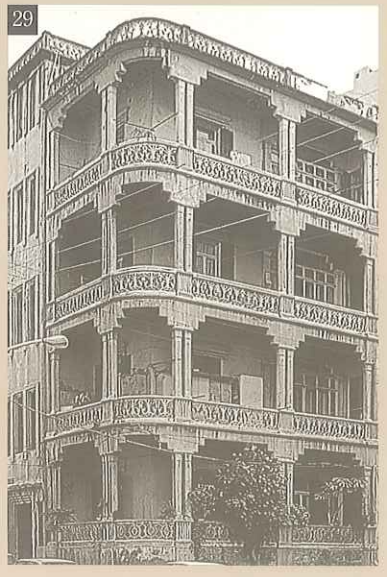
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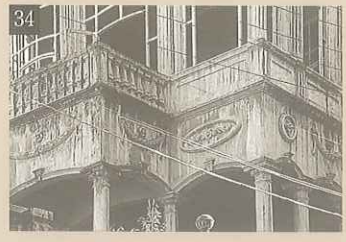
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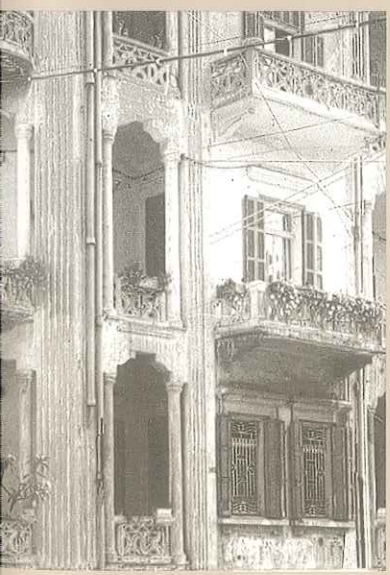

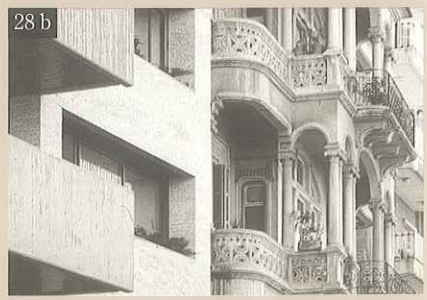
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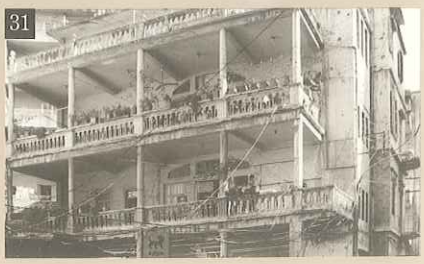
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Composite and Corridor Verandas

With the introduction of French windows, or window-doors [Ch. 6], the veranda was progressively linked to the lateral balconies on each side of the central bay, resulting in a single platform stretching from one side of the elevation to the other. This process is clearly illustrated in the lower-cost structure in [23], where a composite platform was sustained by two columns in the middle and one bracket on each side of the building. A sophisticated version of this composite feature is found in the spectacular Ghazzaoui building [24a], [24b]; also [SB30], which exhibits five different designs of extended balconies, ranging from baroque to modern and from central to compound, ending up with a bay window version on the top floor [24a], [24b]; also [SB30]. In [25], two frontal verandas are linked into a single platform on the top floor and crowned with a cut-out arched frame.

At a later stage, the composite veranda was progressively treated as an integral part of the elevation. Different interpretations evolved in parallel. A straightforward solution is shown in [26], where ornamented columns and beams were extended to the full length of the façade, wrapping around the protruding central bay [35]. The overall veranda shape changed from a deep platform [25] to an elongated corridor. An alternative design is shown in [27], where the mannerist grouping of columns stems more from an aesthetic decision than from a structural need [36]. The design of the veranda became an end in itself. In [28a], the elevation is wrapped with "a second skin": a paneled veranda with cut-out arches sustained by paired ionic columns, with bracketed balconies and a mixture of wrought-iron and cast-concrete balustrades [37]. The background elevation is as carefully detailed as the veranda itself. The two are completely integrated. This admirable and unique building conveys a rare sense of mastered complexity. It contrasts with the abstractness of adjoining buildings [28b].

Corridor verandas extended from main to secondary elevations as a wrap-around feature [29]. During the late transitional phase, they evolved into Art Deco perforated envelopes, outlining the boundaries of the site and hiding the geometric irregularities of the background elevation [30]. The limits between the veranda and the façade became blurred, as opposed to the straightforward additions of deep platforms in basic vernacular structures [31].

Adaptation to Urban Sites

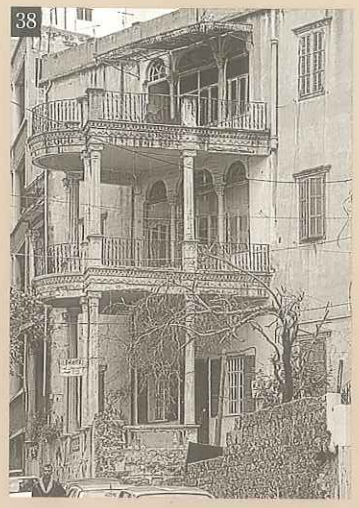
Siting is a key factor in understanding the changing relationship of buildings to street alignment and lot boundaries under the impact of urbanization and evolving architectural trends. Irrespective of facade typology, two types of structures may be distinguished:

- The freestanding structure, whose envelope is mainly conditioned by the articulation of interior spaces.
- The perimeter structure, whose envelope is mainly conditioned by lot boundaries.

The following discussion will focus on the modes of adaptation of veranda buildings to urban sites, taking into consideration the above categorization and using three-dimensional interpretation.

Veranda as Bridging Platform

During the early twenties, traditional central bay buildings were mostly planned as freestanding structures in medium to large-size suburban lots. With the introduction of reinforced concrete, the increase of land prices and the improvement of transportation network, street frontage became a valued asset for visibility. The veranda was seen as a suitable device for bridging the setback space between building line and street line. An interesting example is shown in [38] where the veranda was erected perpendicular to the street and oblique to the building front. This demonstrates the importance attached to reaching street alignment irrespective of façade direction. In the case of a sloping site, frequently encountered in Furn el Hayek, Gemmayzé, Zokak el Blatt, and Minet el Hosn, a customary solution consisted of building a ground floor of shops aligned with the street, while the upper floors were conceived as a freestanding structure with setbacks. Between the two, a simple or stepped veranda bridged the gap [39]. This solution was applied equally in elevations perpendicular to the street [21].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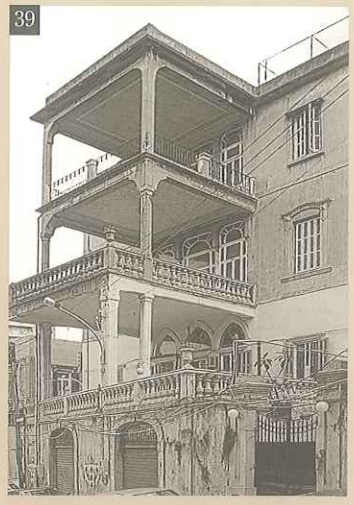
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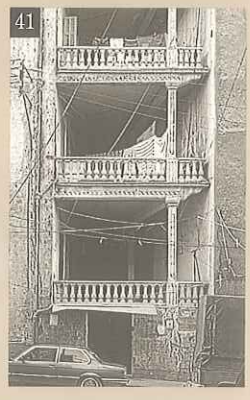
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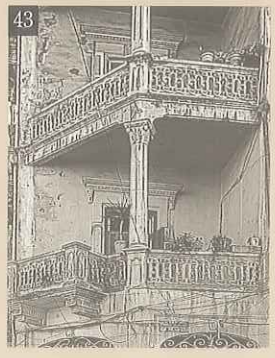
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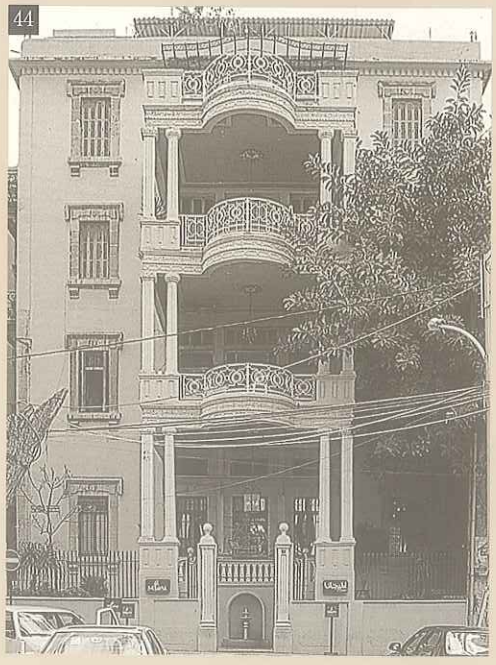
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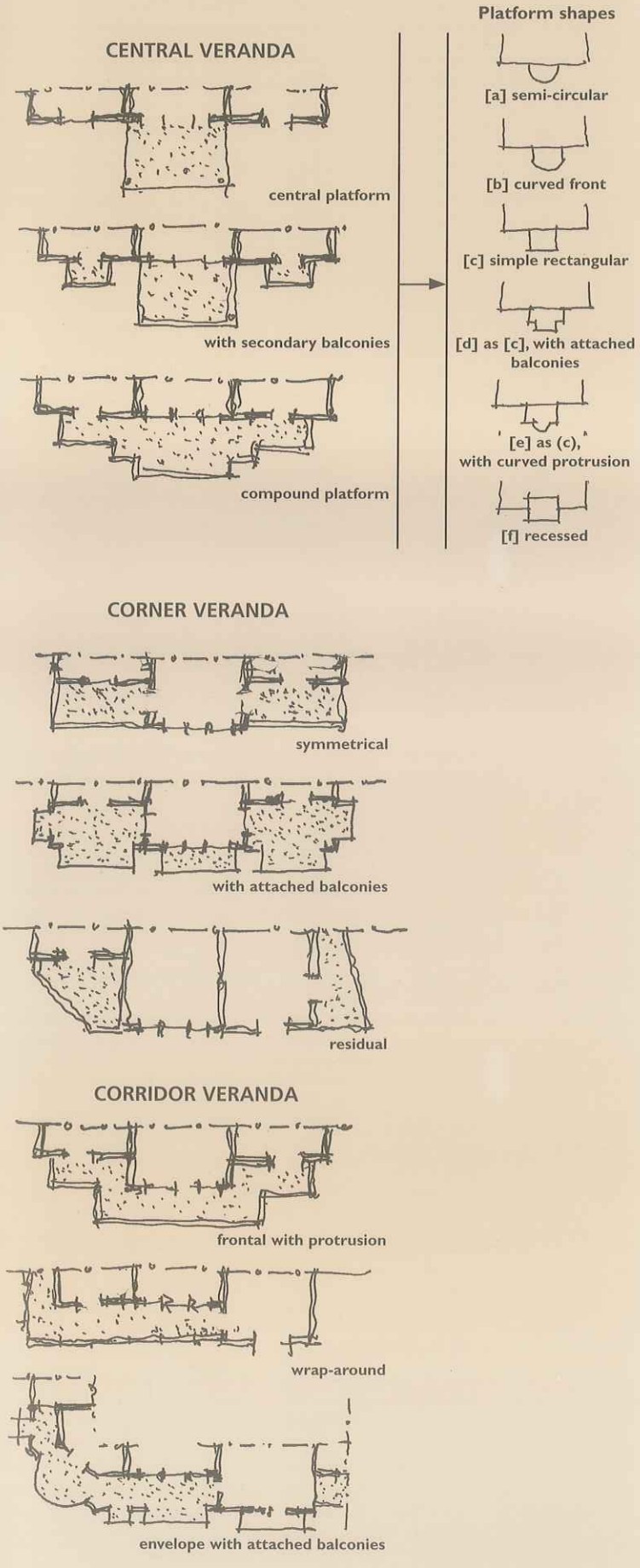
BOX 7.1
VERANDA BUILDINGS: FAÇADE VARIATIONS



Veranda as Fill-In Platform

For maximum lot coverage, setbacks around buildings were filled with colonnaded verandas. This led to irregular platform shapes determined by the left-over space between building and property lines. The example in [40] shows a concrete structure with street-level shopfronts and upper-level balconies, both added to a traditional apartment house [Ch.6: 3]. Fill-in verandas were also erected between two adjacent buildings [41]. A less straightforward approach is shown in [42], where corbelling and fill-in verandas were both used to increase the first-storey area. The effort invested in designing the corner column with its branching brackets attests to the importance attached to maximum site exploitation already evident in 1930s Beirut.

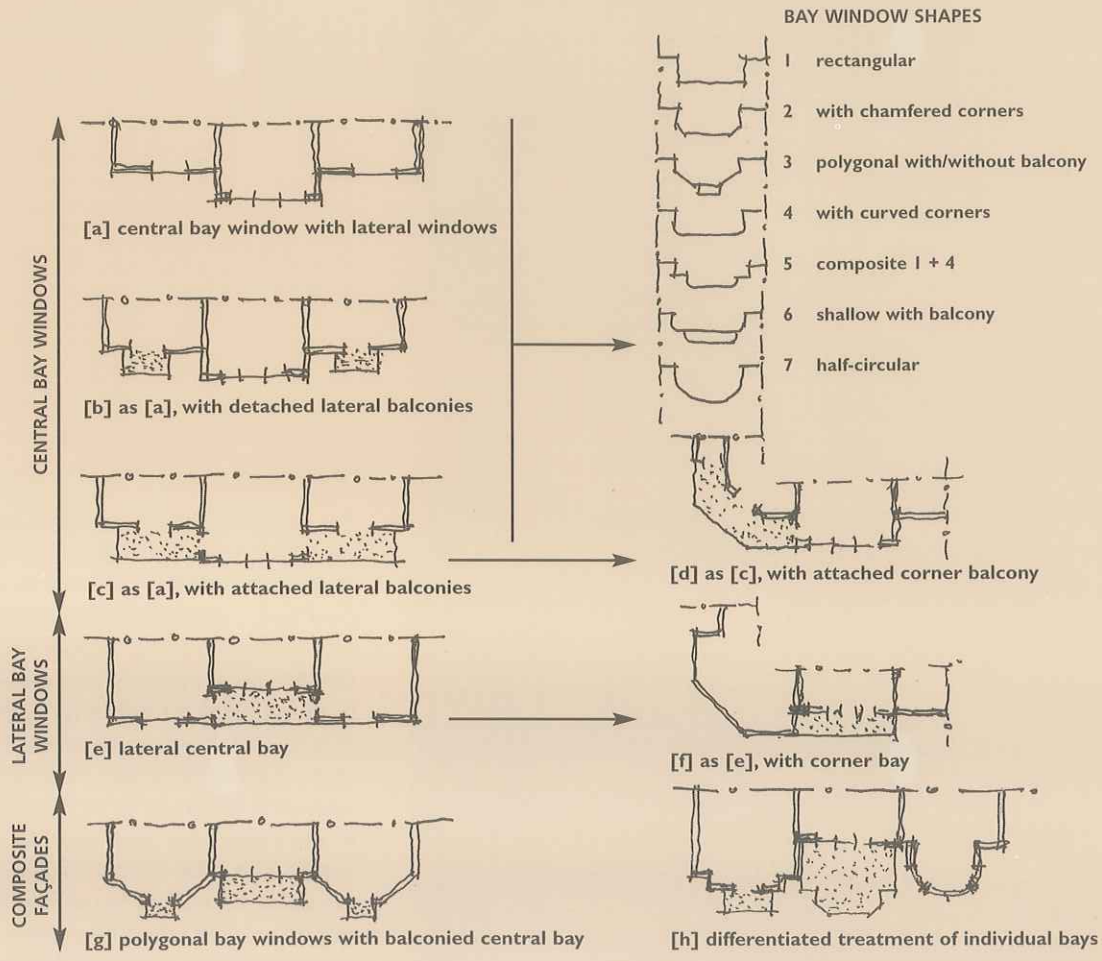
Veranda as Integrated Platform

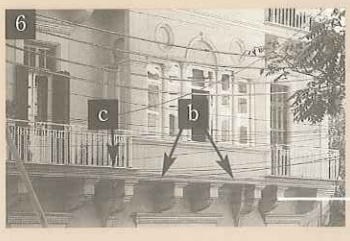
In the case of perimeter buildings, verandas were integrated from the start in massing. The corner veranda in [43] , [SB18] is intended as a transition space between the symmetrical plan and the chamfered shape of the site. A more formal solution was the inclusion of symmetrical verandas on both sides of the central bay [14], [15]. The full elevation aligned with the street, from the ground floor to upper floors. More sophisticated solutions were reached in Art Deco structures [30], where the relationship between the inner building elevation and the perimeter envelope became highly intricate.

Veranda as Entrance Porch

A common solution consisted of using the veranda as entrance porch to the ground floor. A high-style example is shown in [44], [17] and [32]. Here columns were aligned with the concrete and wrought-iron fence; a portal was positioned in between with an elaborate staircase leading up to a central bay entrance. Similar solutions were applied to early modern buildings [45] with stepped verandas and ground-floor setbacks. However, the absence of ornamentation and the simplified forms leave the impression of an evolving structure.

BOX 8.1
FAÇADE TYPOLOGY





chapter 8

Bay Window Buildings

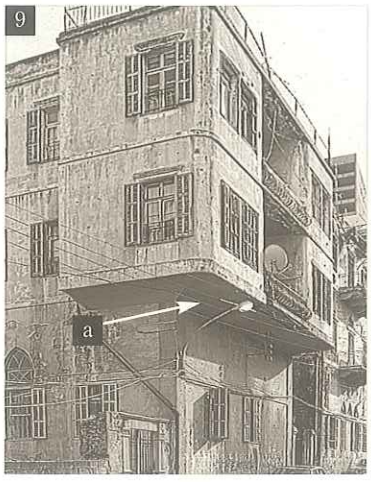
Bay window is defined as a projecting bay with fenestration, either supported by corbels or cantilevered out from the surface of a building. It usually extends to the ground when the building is set back from the street. The bay window building was the latest residential type to be introduced during the second half of the 1920s, in parallel with the diffusion of veranda buildings and the adoption of concrete as the primary material for construction. Bay window buildings spread fast, as may be inferred from the large number of structures erected between the late 1920s and the first half of the 1930s. They covered a wide range of styles and forms and spread to the various sectors of Beirut. The bay window building may be considered as the architectural trademark of Mandate residential architecture, in the same way as the central bay balcony building was a creation of the Late Ottoman period. The difference between the two pertains to the fact that the bay window building was a ready-made Western import, while the central bay is considered as a local synthesis between Western influences and regional building traditions. Bay window buildings declined after the hype of the late 1920s and 1930s and the advent of early modernism in the 1940s. This phenomenon poses the question of why such a type was not absorbed into mainstream vernacular architecture over the long run, like the balcony or veranda building. Although the bay window had the inherent advantage of increasing inner floor area, it was an enclosed feature working against the extroverted nature of the bourgeois apartment building (see Ch. 5 and 6). This is especially true in a Mediterranean context conducive to outdoor living. Beyond stylistic and typological analysis, the underlying aim of this chapter is, therefore, to understand how both bay window and balcony were accommodated in the same elevation in response to two contradictory needs: increasing outdoor space while extending inner floor area.

Façade Types

In its simplest expression, the bay window elevation may be reduced to a protruding central bay, with side windows or window-doors (Box 8.1a, b). Formal differentiation of façades was reached through the manipulation of bay window shape, from rectangular [1] to rectangular with chamfered or curved corners [2] to a composite profile [3] to different polygonal contours including small projecting platforms [4], [SB17]. An alternative solution was to attach the side balconies to the bay window, in order to gain lateral access from the central hall to the balcony space [Box 8.1c], [5]. This solution led to a continuous corbeled platform extending the full length of the elevation and subdivided into a central bay window and lateral balconies [6]. At first, the bay window and balcony slabs were still perceived as detached structural elements. This resulted in the use of an excessive number of corbels at intersection points [5a] or in peculiar corbel shapes [6a]. In more cohesive designs, the continuous platform was clearly outlined by mouldings [6b], and the balcony floor was covered with a slightly protruding marble slab sustaining a wrought-iron balustrade [6c]. On corner lots, the concrete platform wrapped around the chamfered side of the building, from one bay window to the other [Box 8.1d], [7].

Side Bay Windows

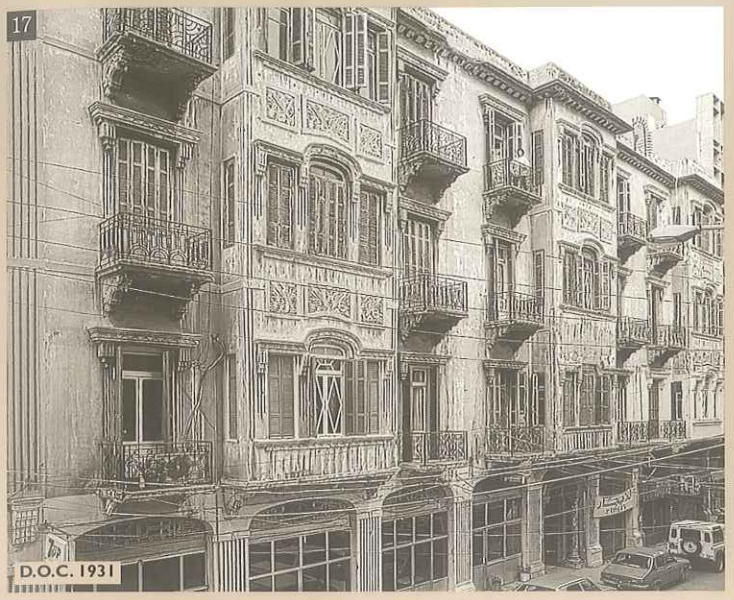
The continuous platform was perceived as a means for increasing inner floor area. Consequently, side bay windows were introduced in order to gain space on either side of the central bay [Box 8.1e], [8]. Such additions were applied to traditional structures and extended from the front to the side of the building [9]. In newly designed and upper-cost structures, they were integrated as part of the design and led to some original solutions, such as the corner balconette in [10] and the corner bay window of the first floor in [11],[Box 8.1f],[SB1]. Corbels were soon replaced by a continuous structural cornice [9a], [10a]. Since the above structures incorporate bay windows and central bays within the same elevation, can they be qualified as composite façades? The elementary treatment of side bays conveys a utilitarian gesture more than an aesthetic choice. Other structures of the late 1920s and early 1930s denote deliberate attempts at architectural composition, through the integration of different architectural features within the same elevation. Consequently, they more properly fit the designation of composite elevations.



Composite Elevations

Although it may be assumed that composite elevations tend to flourish during transitional and eclectic periods, due to the wide range of features available for borrowing, such elevations were rare in the case of Mandate residential architecture. They revolved mainly around the simultaneous use of central bays and hexagonal bay windows [Box 8.1g]. A high-style version, dating back to the late 1920s, is shown in [12] with elaborate surface detailing and window surrounds. A lower vernacular version [13] exhibits the same architectural composition with coarse and diagrammatic detailing. Interestingly, polygonal bay windows were also used as side verandas.

One of the most outstanding examples of composite elevations dates back to the early 1930s [14], [Box 8.1h], [SB22]. Each bay in the elevation is treated differently. The central bay with balconied veranda is flanked by a rectangular bay with window-doors on one side and a half-circular bay window on the other (changing to veranda on upper floors). The resulting profile of the elevation is shown clearly at the intersection of the building with the ground [15]. Although complex, the overall composition is cohesive and denotes superior skills in façade articulation and detailing. This building may be considered as a high-style synthesis of Mandate residential architecture, both in terms of façade typology and stylistic treatment.



Adaptation to Urban Sites

Bay window buildings followed the same modes of adaptation to urban sites as central bay or veranda buildings. However, they had three main advantages over the other façade types:
1- Unlike balconied structures, they provided additional floor space inside.
2- Unlike veranda buildings, they could be erected to street line with no setback requirements.
3- The bay window furthermore had the flexibility of either reaching the ground [4], [SB17] or starting from the first floor up.

These properties made the bay window elevation the urban façade type par excellence and the most widespread model during the late 1920s and early 1930s, both in high and mainstream vernacular structures.

Linear Elevations

With the maturation of rental apartment buildings, a new type of structure emerged: the large-scale residential complex, consisting of two to three attached buildings with intermediate staircases. Such complexes were developed on extended frontage sites, exceeding in some cases 60m in length. The majority of these structures were four to five storeys high, with street-aligned bay window elevations. They formed massive street walls along main and secondary neighborhood streets such as rue May Ziadé [SB24], [25], rue du Liban [16] and rue Gouraud [17]. In the case of reduced frontages, sites were developed in depth. A unique example is situated along rue Spears, with front and back linear buildings [18], [18a], five storeys each, separated by a small longitudinal court. Such high-density development had never been reached in Beirut before.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Perimeter Elevations

For optimum site exploitation, an alternative strategy consisted of designing perimeter buildings. Their envelope followed site boundaries. Such structures mainly occupied corner lots and used bay windows both on main and secondary elevations. Two high-style examples include the Saad building, an eclectic/Art Nouveau building at the corner of rue Gouraud and rue Hayek [19]; and the Tamraz building, an Art Deco building at the intersection of daraj Mas'ad and rue Labaki, built as early as 1929 in the Rmeil area [20], [20a]. Both buildings are impressive in scale, innovative in style, unique in architectural detailing and far in advance of other high-style structures built during the same period. Although strictly tailored to site boundaries, they clearly stand out from the surrounding context, due to their elaborate European styling and their cohesive character. However, perimeter buildings encompassed both high-style and mainstream vernacular structures. Interestingly, architect-designed buildings mostly used the bay window in a rigid fashion, as a feature associated with the central hall. Lower-cost structures showed higher flexibility in adapting the bay window to different façade locations, as an ad hoc device for gaining inner floor space [11], [SB1].

A characteristic streetscape exhibiting the evolution of bay window elevations from late transitional to the early modern period is situated along rue Barrès in Zokak el Blatt [SB6, 7, 8, 9). Two identical four-storey buildings [SB6, 7], commonly refered to as the French Lieutenant buildings, illustrate the most successful façade type: the central bay window with attached side balconies [Box 8.1c]. The French Lieutenant twin buildings are shaped both from within by their symmetrical central-hall plan and from outside by the curvilinear street alignment. Accordingly, they may be considered, both in terms of scale and façade composition, as a intermdiate type between linear and perimeter buildings. Finally, other modes of adaptation to urban sites included the construction of perimeter ground floors with commercial uses, topped by a freestanding residential structure [21]; and the use of fill-in verandas between adjacent buildings. As seen before, both solutions were equally applied in central bay and veranda buildings.


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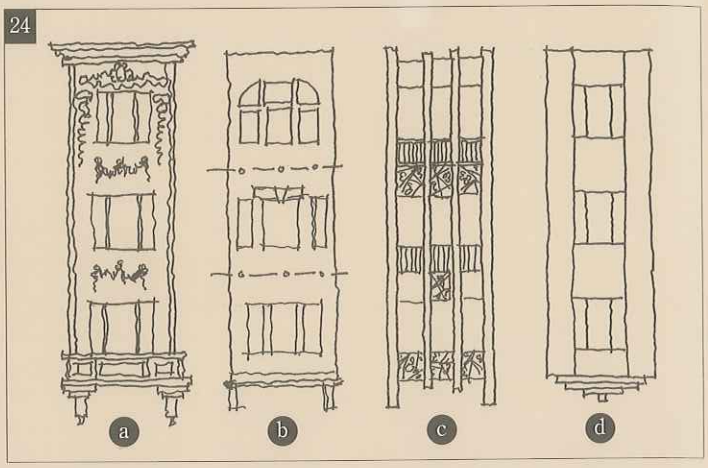

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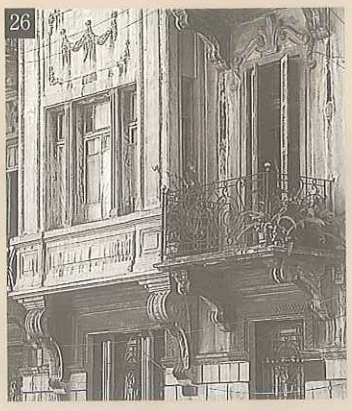
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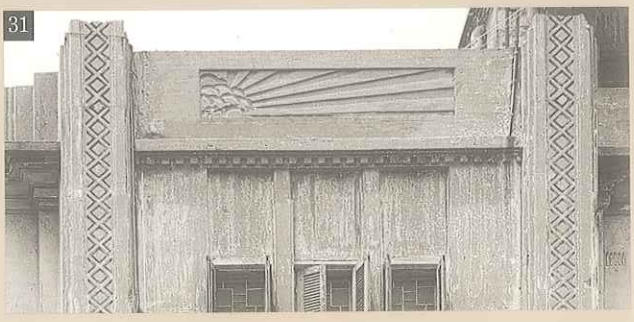
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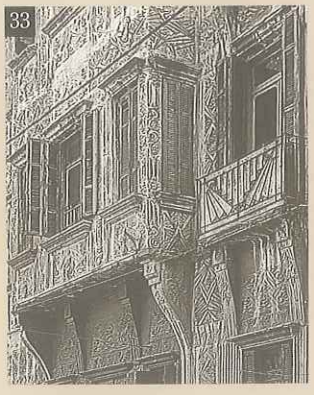
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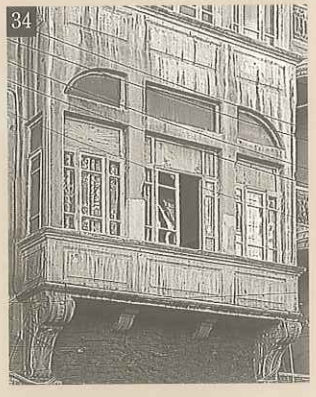
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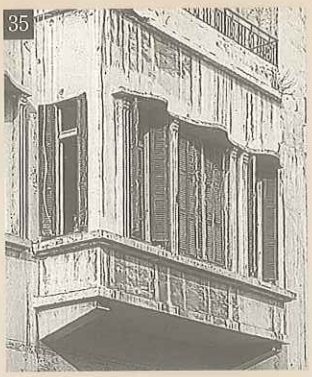
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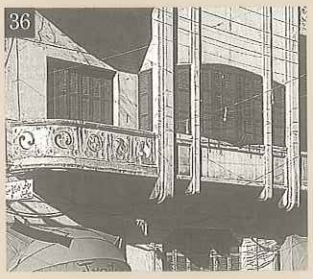
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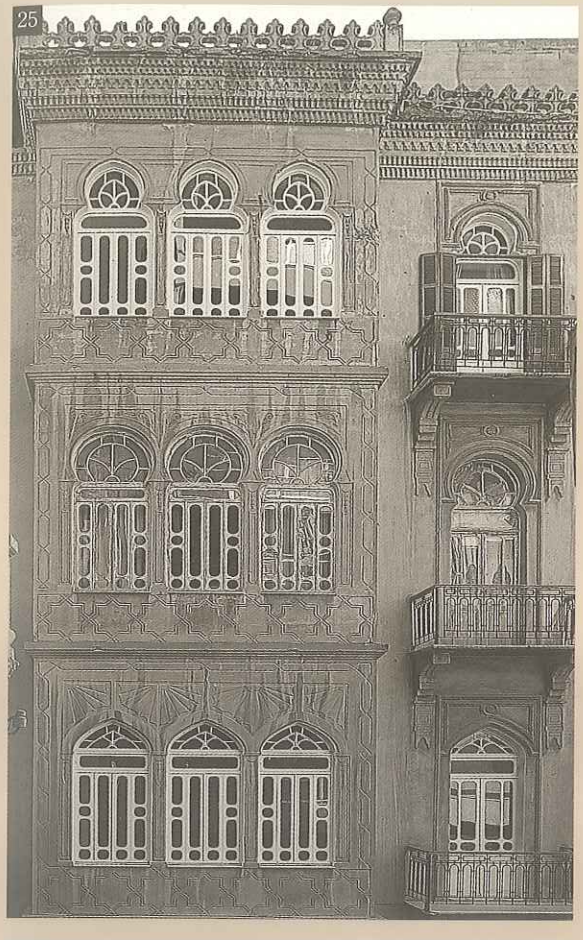
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Formal and Stylistic Variations

The distinguishing characteristics of bay window elevations are linked both to structural and aesthetic considerations. Structurally, the bay window necessitated the use of large-size corbels to sustain the added load of the bay's enclosing walls. These corbels were treated with elaborate detailing [22], [26] and original designs [27], in order to visually reinforce the base of the protruding bay. In some cases, they were replaced by continuous integrated supports with unusual shapes [23].

Aesthetically, the bay window was the most prominent feature of the elevation. Therefore, it required a basic design decision concerning its formal and stylistic relationship with the façade as a whole. Two types of approaches may be distinguished:

a- visual integration: The same window shapes and styles were applied both to side and central bays, with the use of unifying horizontal belt strips and parapets. The Neo-Ottoman building in [25] exhibits different window designs for each floor, with a continuous roof parapet crowning the building. Another relevant example is an Art Deco building in Bachoura [33], [SB3], where the same incised surface ornamentation and window shapes are used for both the background walls and bay windows.

b- visual autonomy: The differentiation between the bay window and the rest of the elevation is attained through four main strategies:

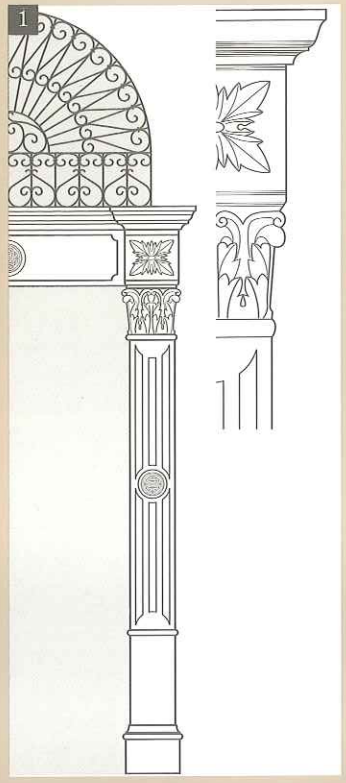
1- Treating the central bay as a distinct entity, with a clear base and crowning [24a], [31], [SB5].

2- Using distinct opening shapes, such as segmental arches [24b], [27], [34], Palladian bays [30] and other eclectic designs.

3- Reinforcing vertical continuity through the use of vertical strips and decorated panels, often applied in the case of Art Deco buildings [24c], [32], [32a].

4- Choosing different bay window shapes, from rectangular to curvilinear to composite [24d]; [Box 8.1].

Stylistically, bay window elevations covered the same range of variations as other façade types. Having evolved mainly during the late transitional phase, their predominant styles were the Art Deco and the early modern [28], [29], [32], [33], [35], [36], [37].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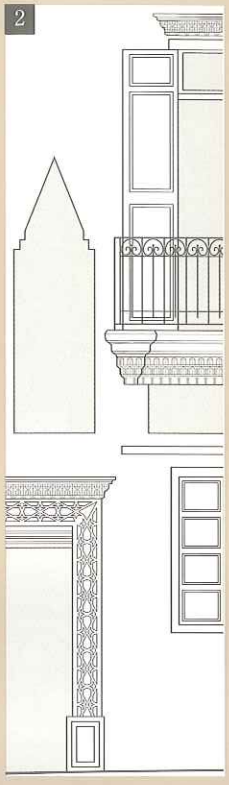
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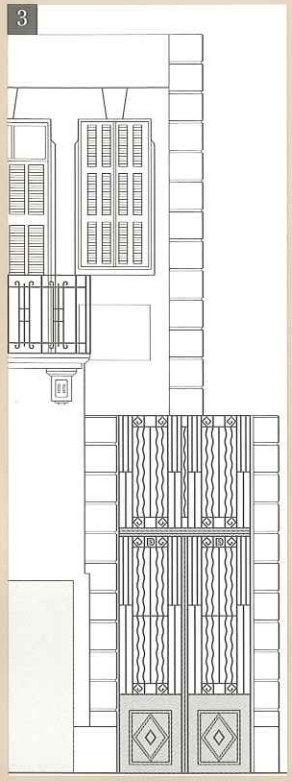
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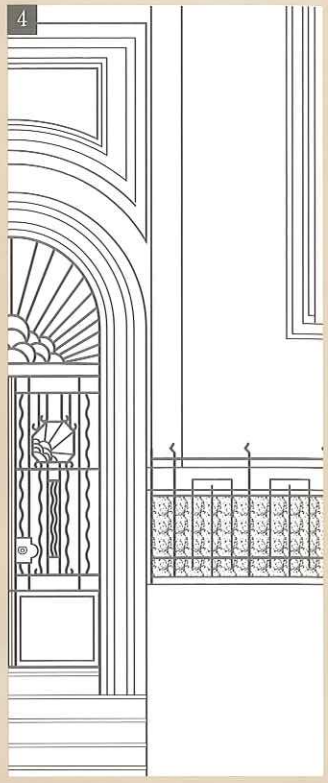
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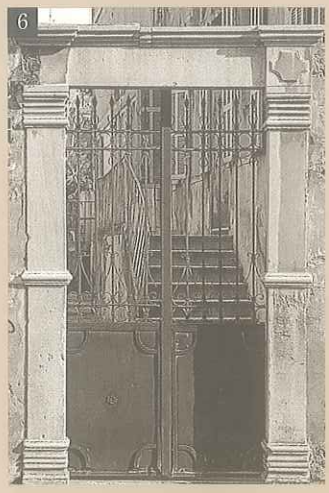
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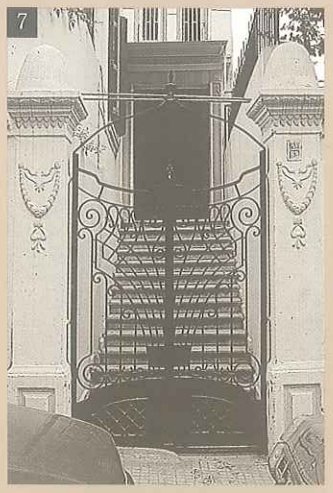
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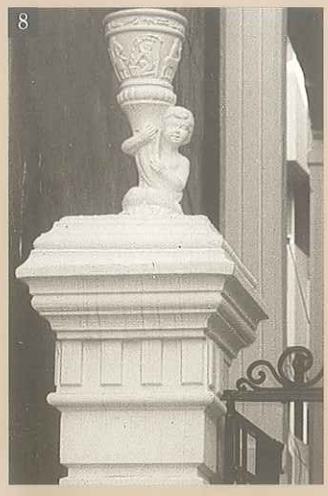
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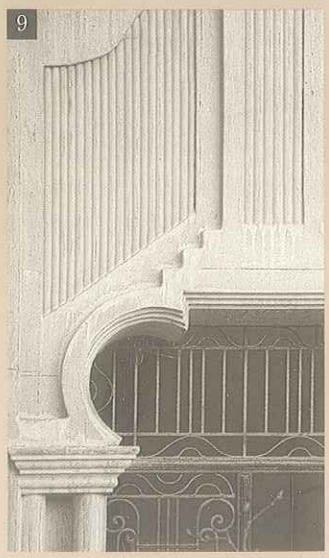
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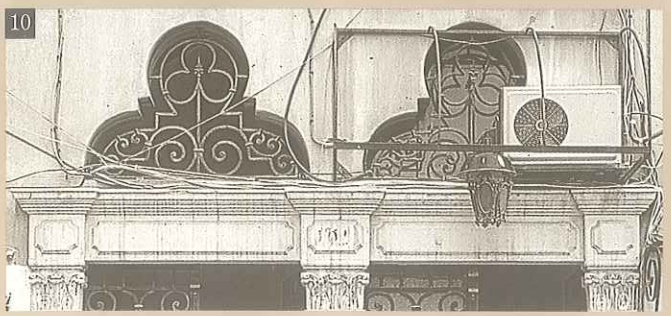
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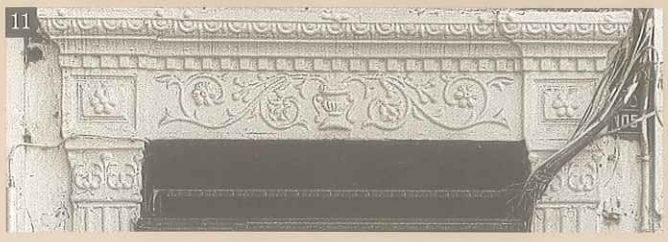
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chapter 9

Architectural Elements

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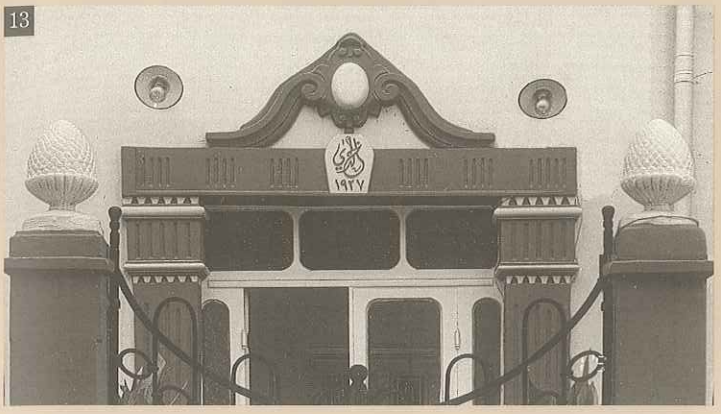

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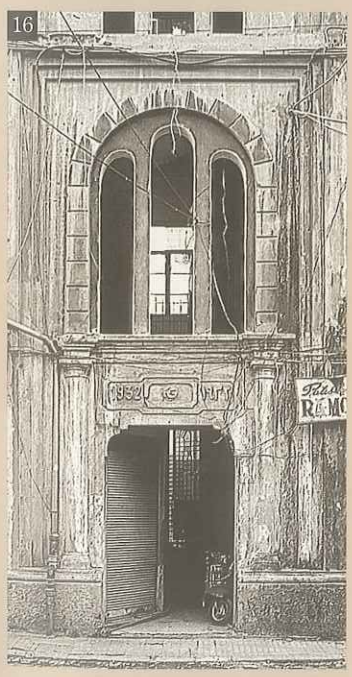

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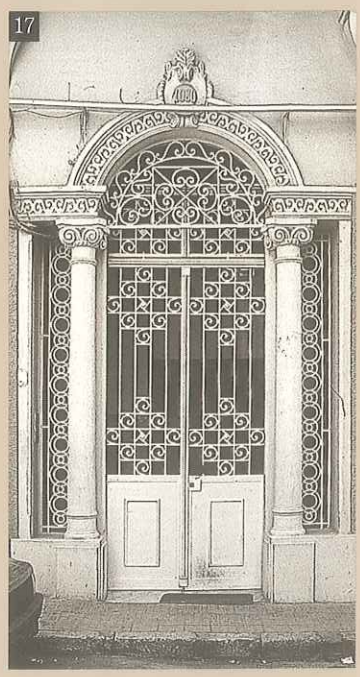


A- Gates and Doorways

Doorway refers to the main entrance of a building, while gate designates the access way to a property and is part of the fence marking its boundaries. Usually, doorways and gates were placed along the same visual axis and were treated with similar detailing and style [13]. A common feature is the twin portal or doorway which usually segregated ground-floor from upper-floor entrances, or the entrances of two adjoining buildings [10].

In traditional apartment buildings, gates and doorways shared the same design, consisting of two pilaster strips supporting a lintel, usually a single piece of crafted stone [1], [5], [6]. Pilasters and lintels were enriched with ornamentation according to the status of the owner. They incorporated flattened classical capitals, fluted shafts, elaborate friezes and cornices and, in some cases, triangular or arched pediments. The same details executed in stone or marble would be later executed in concrete [11]. However, with the increasing use of cast concrete, ornamentation invaded both upper and lower-cost buildings and eclectic details replaced the limited palette of traditional and neo-traditional vocabulary.

In mansions and upper-status apartment buildings with elaborate fences, gates were treated with the same design as the fence. They usually consisted of a wrought-iron gate hinged on two lateral freestanding piers (gate piers), richly decorated with vases and other molded figures [7], [8]. However, with the increasing urbanization, structures were built up to property boundaries, with no setbacks, which led to the disappearance of fences and gates. Doorways opened on to the sidewalks. They became the only threshold between the public domain and the building itself, and the focal point of the whole elevation directly perceived by the passerby. They advertized the style of the whole building through a condensed and original interpretation. They became a direct illustration of the prevalent styles during the 1920s and 1930s, from neo-classical and baroque [14], [16] to Palladian [17] to Neo-Ottoman [2], [15] to Art Nouveau and Art Deco [3], [4], [12]. In high-cost structures, doorways were often one of a kind; in middle to lower-cost structures, the same moulds devised by a craftsman were used irrespective of the style of building in all structures within the area of his operation. As an example, surrounding rue Jeanne d'Arc, next to AUB, four different apartment buildings with different styles feature the same cast-concrete portal [11].

Another significant feature is the date of construction plaque, usually marked in a cast-concrete motif above the entrance gate as part of the overall doorway design [13], [17]. The rare buildings with such plaques, mainly dating to the late 1920s and early 1930s, helped the articulation of a chronological framework for the classification of mid and late transitional structures.

B- Windows and Window-Doors

The tall shape of window openings remained unchanged in both traditional and transitional buildings. Development mainly occured in three areas: 1- the structural design of lintels, 2- the introduction of new window types, such as the French window (or window-door) and the paired window, and 3- the decorative treament of window surrounds according to the taste of the client and the architectural repertoire of the designer and / or master builder.

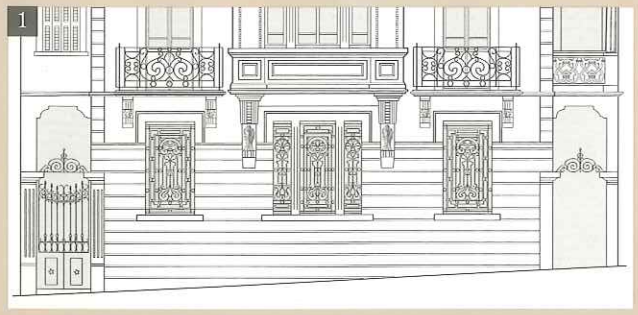
Location and Use

Windows changed in design according to their location in the elevation and their relationship with interior spaces:

- On the ground floor, they received a wrought-iron grill for protection and were treated as an integral part of the ground floor elevation through unifying ornamental devices, such as horizontal bands in stucco or stone [1], [SB5].
- On upper storeys, windows were often carried down to the floor as window-doors *(porte-fenêtre)* or French window [2], [SB12]. They either received a guardrail in wrought iron [23] or opened on to a balcony [24].
- Window units and window-doors were also used in central bays and bay windows in symmetrical groups of two or three [12]. Paired windows also became a popular feature in mid and late transitional buildings [18], [19].

Spanned Window Opening

In early traditional buildings, a continuous wooden beam was integrated inside stone-bearing walls and bridged over the successive openings of an elevation [5]. Another solution consisted of anchoring a flat wooden board on both sides of a window opening [6]. The extended window frame itself was also used as support [7]. In some cases, horizontal timber boards were eliminated, and the stone lintel served as a self-supporting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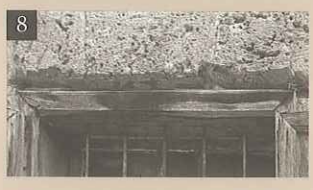
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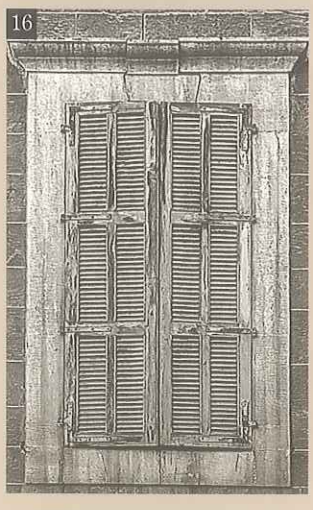
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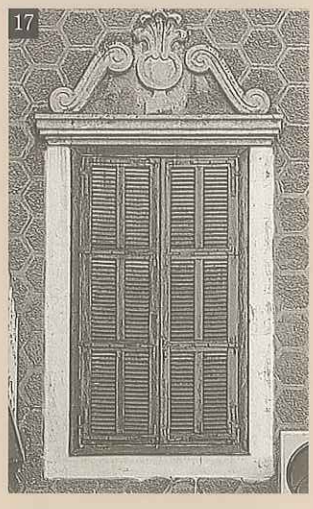
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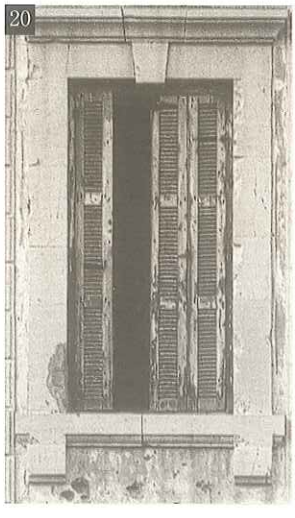
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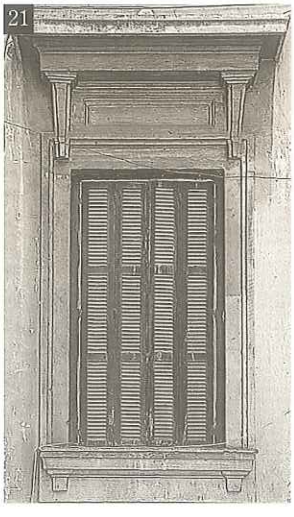
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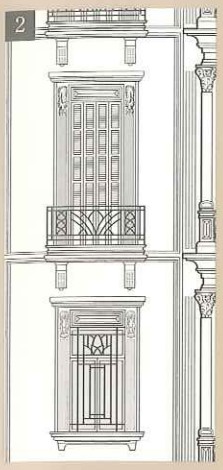
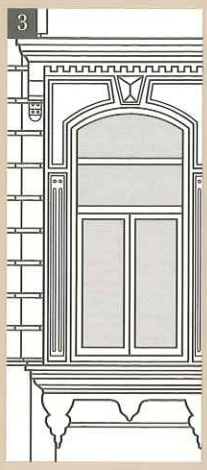
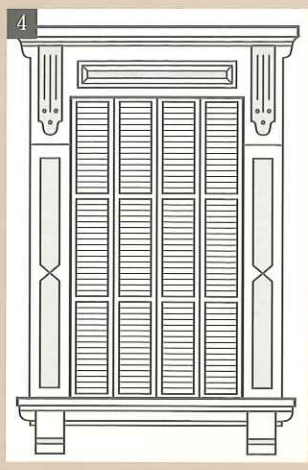
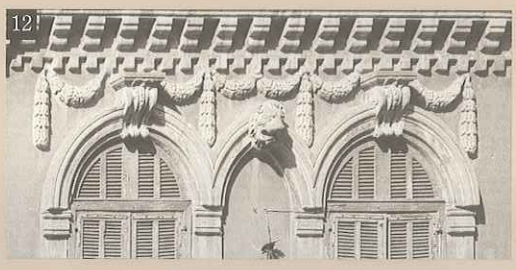
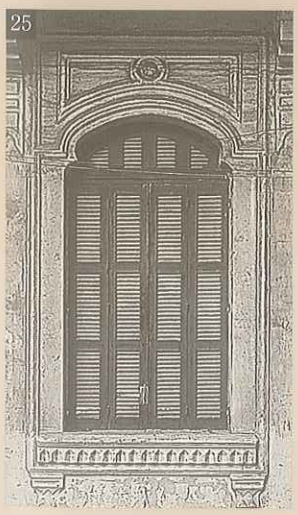
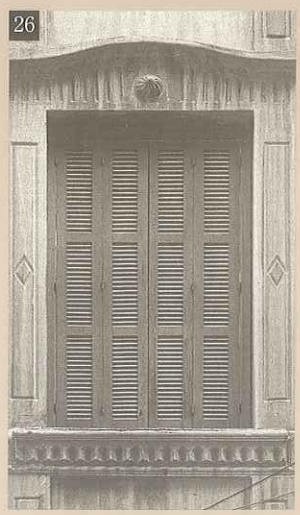


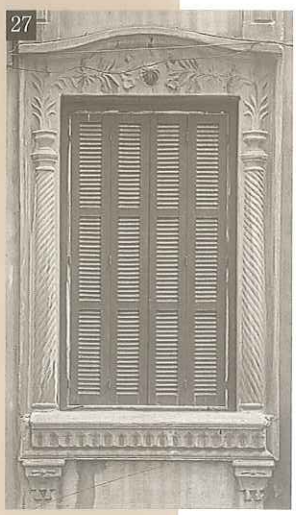


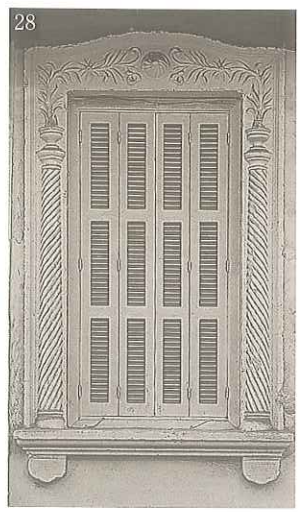












device. It either protruded slightly on the bottom edge [8], or was fully carved as a moulded lintel. In neo-traditional buildings, and due to the use of porous sandstone, plaster finish was shaped as moulded strips and attached to wall surfaces [9]. With the increasing use of concrete, lintels and window frames were cast in one piece [3], [4], [15], while in-fill walls remained in sandstone, and later in brick.

Ornamental treatment

The multitude of window designs that emerged in the 1920s and 1930s was not only the outcome of an indiscriminate borrowing from Western examples. It equally resulted from the tendency of master builders and early designers to freely mix and match between available decorative features. A telling example are the three neighboring buildings showing variations on the same window design through the borrowing and adaptation of details from each other [25-28].

Chronologically and prior to the spread of concrete in the 1920s, only upper-cost apartment houses could afford elaborate pediment designs and carved stone frames [10], [11], [16]. During the neo-traditional phase, the same motifs (mostly neo-classical) were reproduced in middle-class apartment houses on a background of plaster, often incised with geometric patterns [13], [14], [17]. Early transitional buildings used yellow limestone *(hajar furni)* for window framing [20]. However, the multitude of post-1925 buildings adopted concrete for window frames and lintels. This practice was accompanied with a proliferation of cast ornamentation, ranging from coarse to refined [22], [27], and from neo-classical to Art Nouveau [21], [23]. With the increasing penetration of the early modern style, window frames, lintels and pediments were abandoned [24].

C- Iron Balustrades

Ironwork in Beirut's domestic architecture was mainly confined to wrought iron. Although elaborate cast-iron designs and ready-made products were mass-produced in Europe and marketed worldwide through trade catalogs, their use in Beirut remained restricted to late nineteenth-century mansions and upper-status apartment houses. These still exhibit imported balusters with complex patterns [A].

Wrought iron was imported in small rolled sections and bent into desired shapes by local smiths. Rivets, bolts or tie bands (collars) were used for joining metal pieces in the absence of welding. Early wrought-iron forms were simple both in terms of design and craftsmanship. Sophisticated and complex patterns were confined to upper-status structures. However, starting in the 1920s, with the development of bourgeois apartment buildings, wrought-iron patterns became numerous and eclectic, making difficult any attempt at stylistic classification. From this extreme variety, three general categories may be distinguished:

1- Simple traditional patterns characterized by vertical and closely spaced bars tied together by top and bottom rails. Sometimes, they are enriched with C-scrolls and S-scrolls and stiffened horizontally by a thin band riveted to vertical bars [B1]. Intermediate posts, set in leaded holes and bolted to the top and bottom rails, provided rigidity to all balustrade elements [B2]. The use of thin and square sections of different thickness conferred an impression of three-dimensionality and austere elegance. Balustrades were either flat or of bellied form. [D2].

2- Early eclectic patterns with moderately complex geometric forms, either elaborating on traditional designs or partially incorporating contemporary influences. These patterns usually have vertical directionality and use a limited amount of curvilinear forms [C].

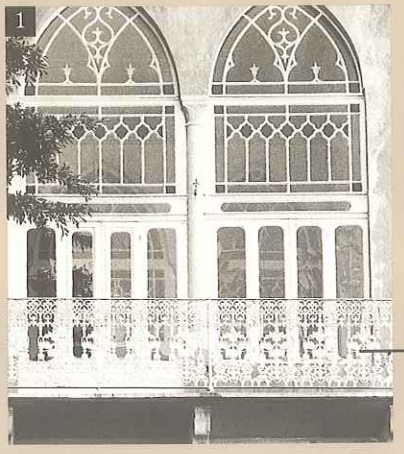
3- Late eclectic patterns, often copied from Art Deco and Art Nouveau motifs and expressing advanced skills in joining metal pieces. Tie bands became limited in use, and riveting *(tabchim)* predominated. Thick and uniform sections were used for most elements, giving an impression of solidity and two-dimensionality [D3-D5], [E].

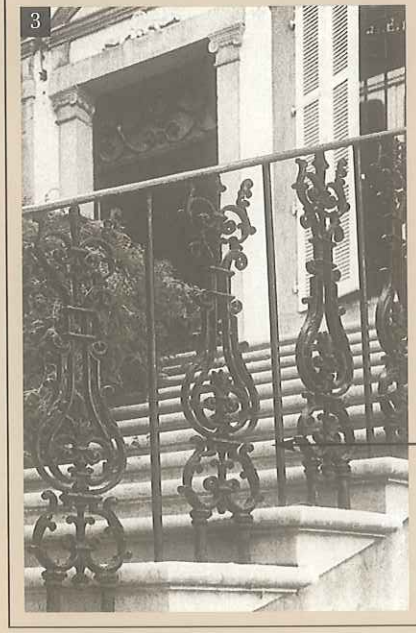
Besides balcony and balconette railings [C], [D] ,[E], ironwork encompassed a large number of architectural elements: from window grilles and guards [F], [H] to fences; to portals with personal initials and date of construction [G1] to canopies [G2] to grilles for central bays and bay windows, mainly in post-1930 apartment buildings [I]. Wrought iron usually followed the same style as the elevation in professionally designed structures. However, in vernacular buildings, ironwork was a collection of ad hoc motifs chosen according to the taste of the entrepreneur and the owner. It was acceptable both in upper and lower-cost structures to mix and match different patterns for different floors and to use wrought iron with cast-concrete balustrades. The local trade name of architectural ironwork is *fer forgé*, pronounced in French, which may be indicative of the French influence through nineteenth and early twentieth-century pattern and trade books. French master craftsmen Daniel Marot, Jean Lamour and Jean Tijou were renowned in this field.

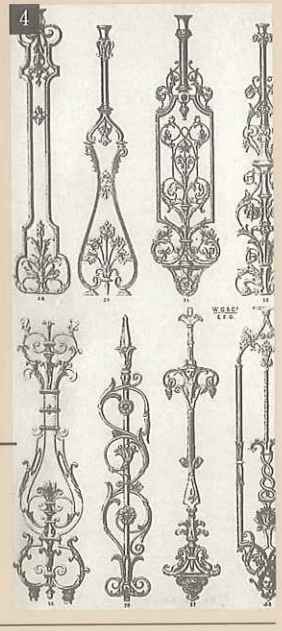
A

"Two houses show ironwork with connections as far afield as Australia and Scotland. The Ardati Building [1], Manara, has a balustrade with birds and vases seen in Sydney [2] and advertised by McDowall, Steven & Co. of Glasgow, as well as Harley's of Adelaide. The Tufenkjian House in the Sursock Quarter [3] shows a stair rail made of balcony balusters, inadequately adjusted to the slope. A similar design appears in the catalogue of Watson, Gow & Co. of Glasgow [4]."

Source: Robertson, E. Graeme and Robertson, Joan, *Cast Iron Deocration, A World Survey,* London, Thames and Hudson, 1994, p. 320; pl. 31, 376, 505, 506.
Photos 1, 2, 3 and 4 courtesy of Joan Robertson.

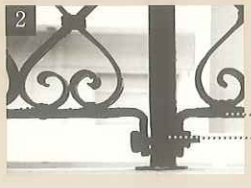






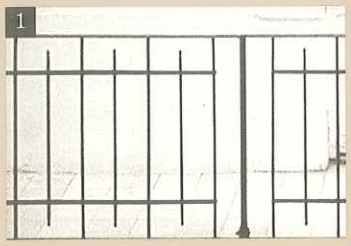
B

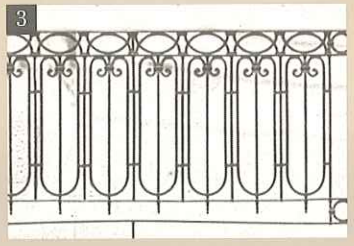
Top rail
Vertical bar
Tie band
C-scroll
Horizontal band riveted to vertical bar

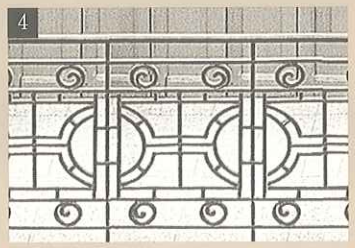


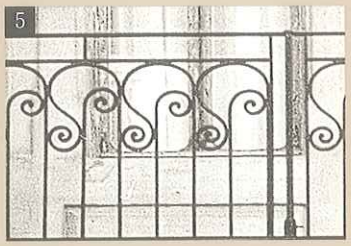
Bottom rail bolted to intermediate post
Intermediate post

C









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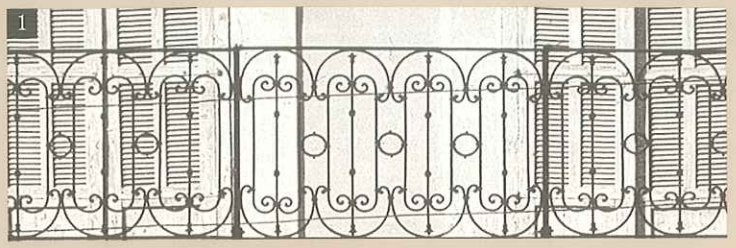

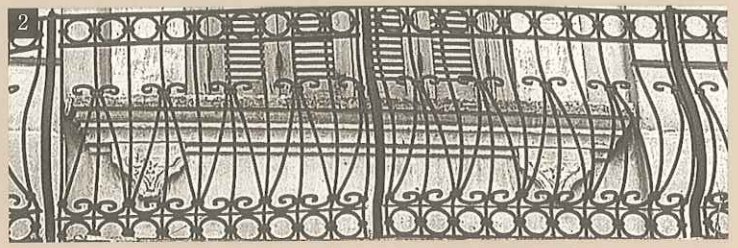

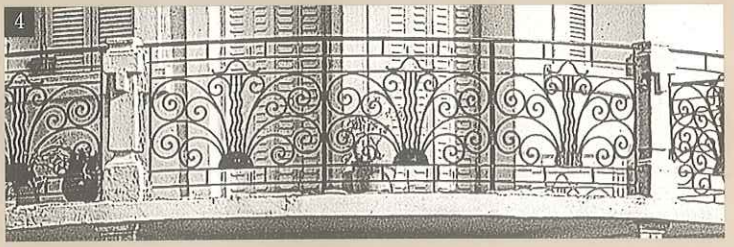

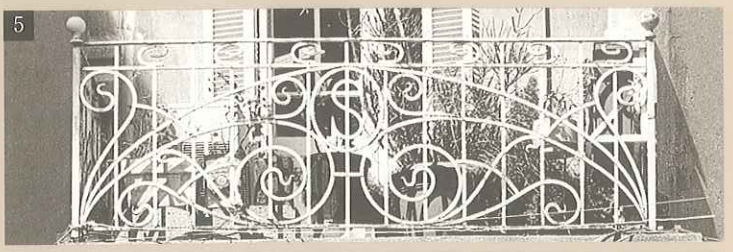

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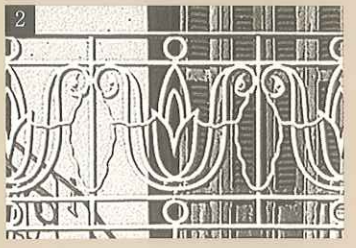

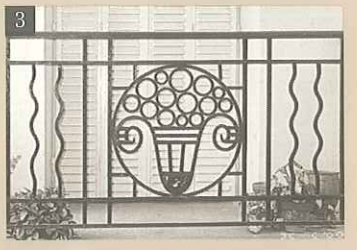

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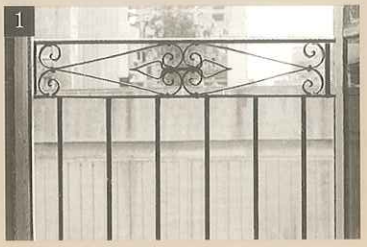

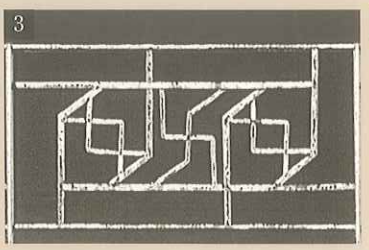

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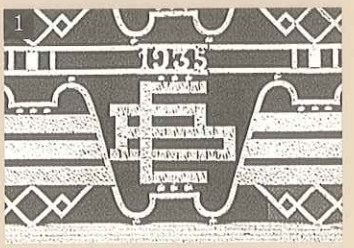

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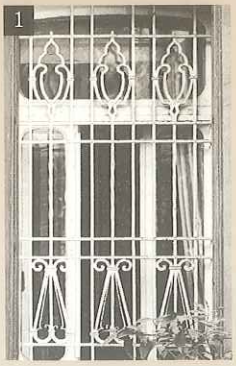

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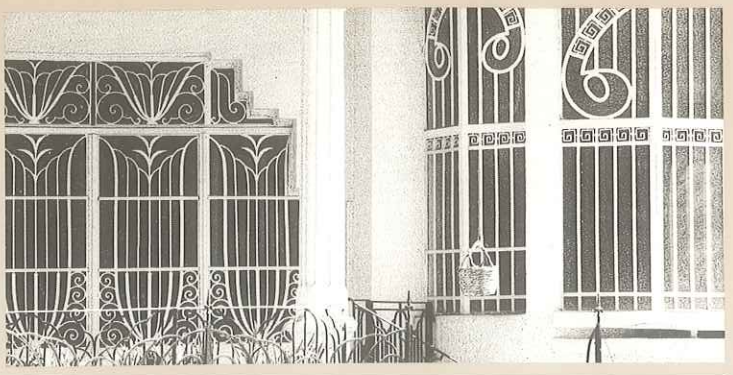
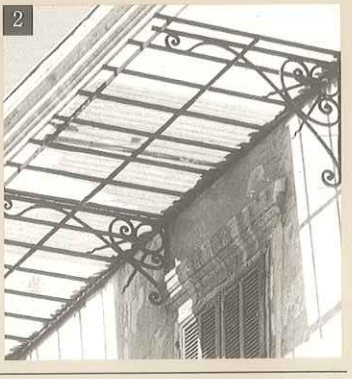




D- Cast-Concrete Balustrades

With the emergence of veranda buildings, cast-concrete balustrades became a distinctive feature of Beirut's eclectic residential architecture and a prime indicator of both the taste of the owner and the versatility of the master builder. The malleability of a material that can take the shape of any desired motif or pattern led beyond the imitation of imported forms to the reproduction of local popular symbols, such as the cedars [I1], and familiar geometric patterns, such as the arabesque [F2], [F3]. It became a fashion to have a distinct motif on each floor [I2-5], [SB29]. Interestingly, this variety did not lead to visual chaos, due to the strong massing and hierarchy of detail underlying the whole elevation.

Early balustrade forms carved in stone are found in pre-1920 neo-traditional buildings [A1]. They consisted of: a- a top rail in flat stone, b- a midsection or body consisting of a carved motif and c- a base slightly projecting from the belt course. The same elements were reproduced in concrete with steel reinforcement [A2]. In the case of balusters, they were generally posed on the slab without a bottom rail. Balustrades were either embossed or flat [A3], [A4].

The same shapes were sporadically reproduced both in concrete and wrought iron [B], which may lead to the conclusion that catalogues of wrought iron may have been used as models to create moulds for concrete balustrades.

It is difficult to classify cast-concrete balustrades either chronologically or stylistically, due to their high variety, including some unique examples found only in single buildings. Nevertheless, four broad categories may be identified:

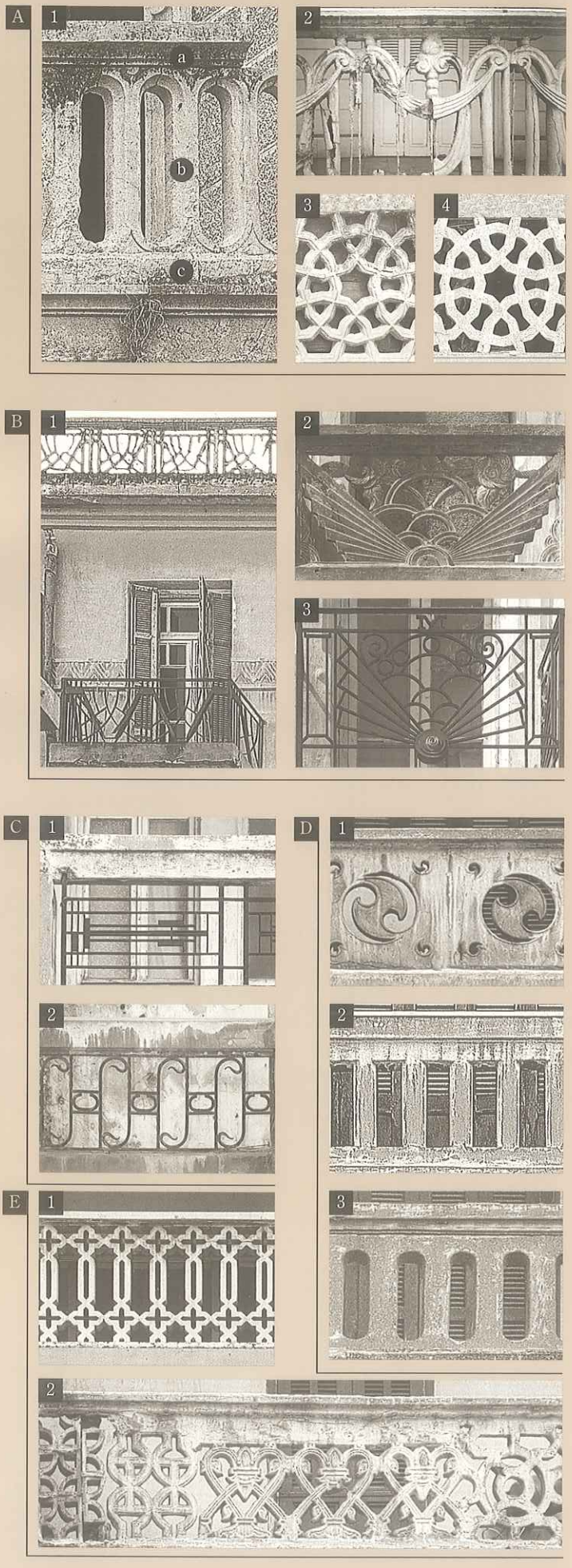
1- Wide elements or panels embossed on the front and flat on the back, with motifs ranging in style from baroque and Neo-Ottoman [F] to figurative [G] to Art nouveau and Art Deco [H].

2- Narrow elements ranging from embossed to flat units [J].

3- Balusters with a wide variety of shapes and styles (only a small sample is reproduced), ranging from three-dimensional to cheaply reproduced cut-out shapes [K4].

4- Hybrid balustrades consisting of a concrete top and bottom rail with a wrought-iron body [C].

The progessive simplifcation, abstraction and loss of surface embossing [D] may be traced to low-cost imitations and /or to the simplification trend initiated by the early modern movement. As such, cast-concrete balustrades may be considered as the precedents of the *claustra* units which later took their place and were used as ad hoc replacements [E].



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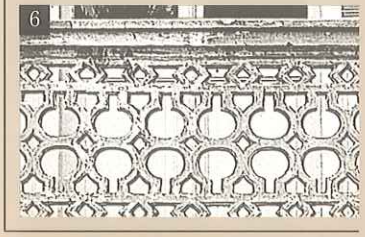
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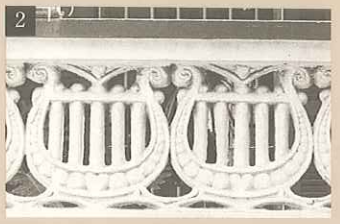
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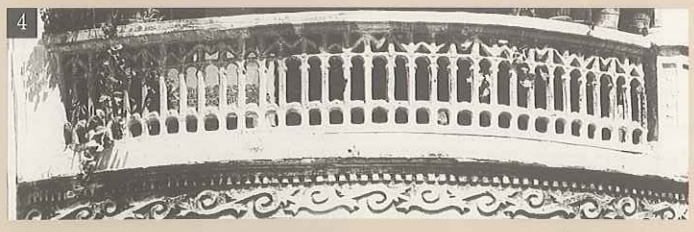
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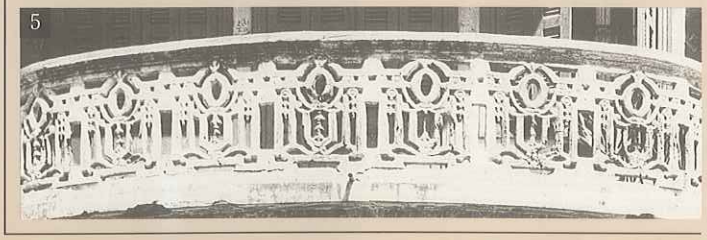
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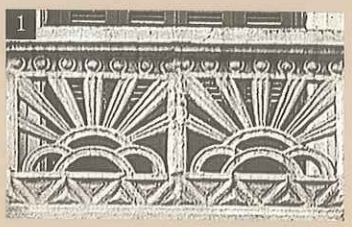
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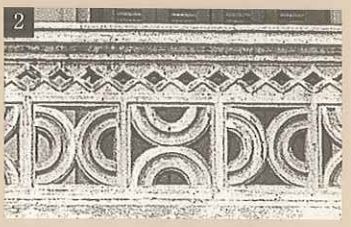
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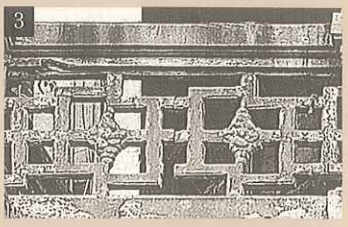
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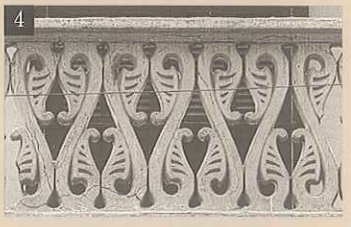
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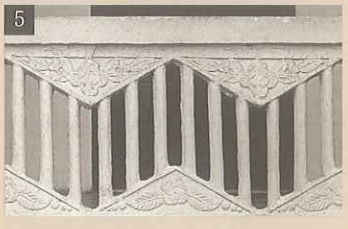
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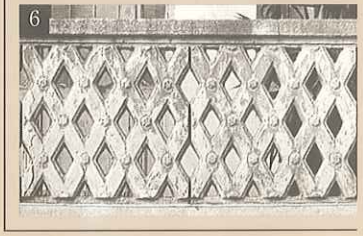
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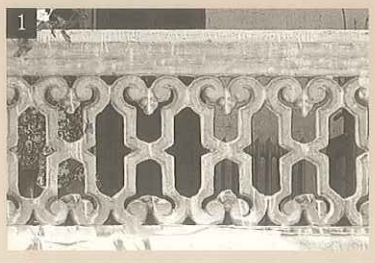
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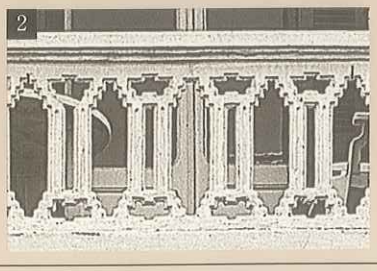
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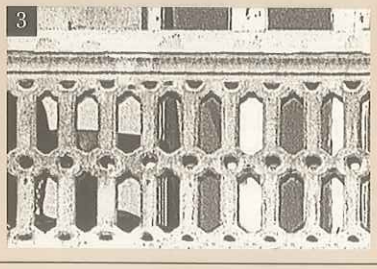
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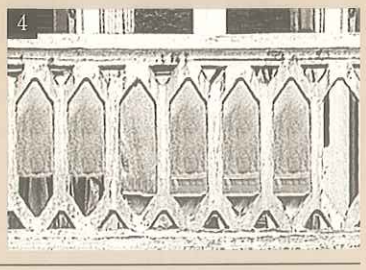
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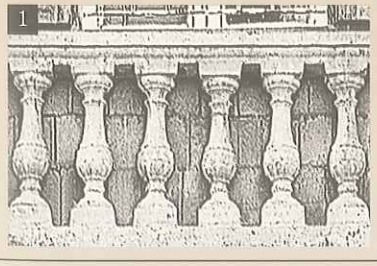
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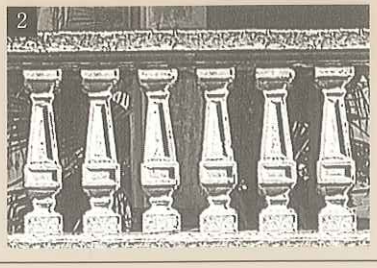
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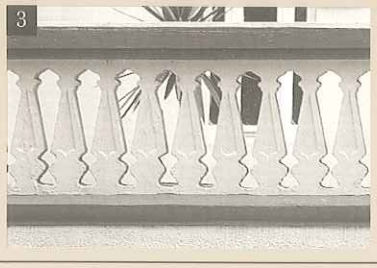
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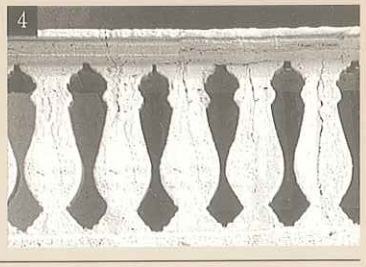
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E- *Cemento* Tiles

Manufacturing Process

The local trade name of *cemento* refers to the colorful floor tiles with the large repertoire of geometric patterns, used during the 1920s and 1930s in residential buildings (the common name was *sijjadeh* or carpet). Cemento tiles were manufactured from a cement mix with no addition of gravel or marble chips (as would later be the case with terrazzo or "mosaic" tiles). They were produced locally in tile factories by skilled workers using a cast-iron mould and a water press *(makbas daght a'l may)*.

The mould was composed of four parts: the base, the frame, the pattern or forma and the top [1]. All pieces were cast locally except for the "forma", which was imported from Europe. The "face" of the tile was made of a cement mix composed of rock powder *(boudrat sakhr)* or sand, white cement and an artificial color agent *(moghra)* imported from Italy. The semi-liquid mix was segregated into different water pitchers *(abariq)*, each one containing a different color. It was poured into each space defined by the forma, according to the color pattern. Rock powder was sprinkled and spread over the surface of the tile as bonding agent, and the forma was lifted using the handle. Finally, the "bottom" underbed of the tile was cast, using a black cement mortar *(boudrat al qafa)* composed of rock dust, fine gravel and black cement. The tile was then pressed and laid to dry.

The progressive replacement of *cemento* tiles by terrazo during the 1940s and early 1950s was due to the increase in the local production of gravel and the mechanization of tile manufacturing techniques.

Typical Color Schemes and Geometric Patterns

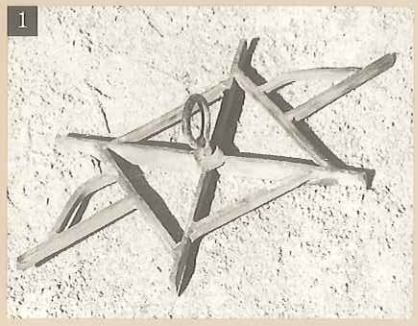
In traditional apartment buildings, floor tiling was confined to large marble slabs in the central hall and to red brick tiles in the remaining spaces (marble was also used in sanitary facilities of upper-status buildings). In neo-traditional apartment buildings, cemento tiles appeared mainly in non-reception areas adjoining the central hall. With the increasing local production, it became customary to choose different patterns and colors for different rooms. An average of four to five patterns is usually found in any mid and late-1920s apartment building. The use of *cemento* tiles would expand to the central hall starting in the early 1930s, along with an imitation of the diagonal strip pattern of marble flooring [1.1]. However, in high-cost residential structures, marble remained the primary choice for central-hall flooring.

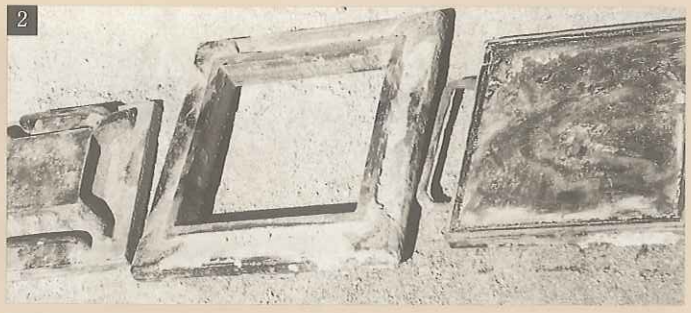
The number of colors found in cemento tiles varied from one to three colors superposed on a beige or off-white background. On the other hand, geometric patterns may be segregated into two main categories: the

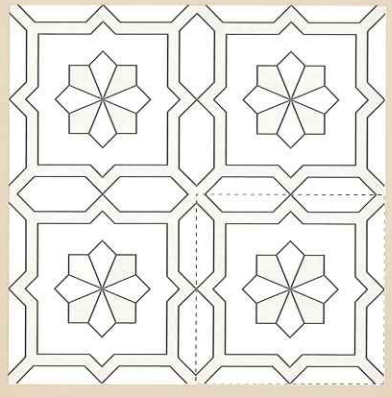
1 **CAST-IRON MOULD FOR CEMENTO TILES**

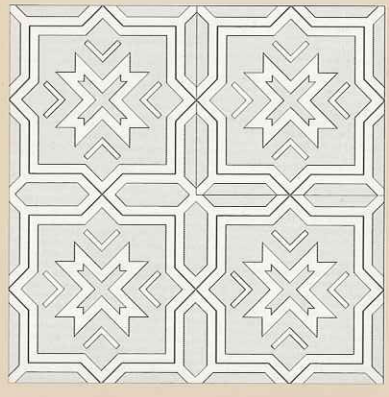
Below: Forma with pull-out handle [1]; and top, frame and base of a mould [2].

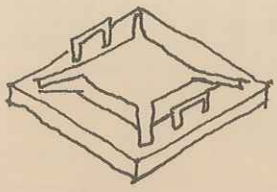
Photos taken at Toufic Badran's tile factory, Mazraa, Beirut. Information based on interviews with Nakhle Chamaat, owner of Société Fils Sélim Chamaat tile factory, Beirut; Kassem Moucharafieh, master tile-maker born in 1925 (Toufic Badran tile factory, Beirut); Mohammad Khaled, master tile-maker (al Akkad tile factory, Tripoli).



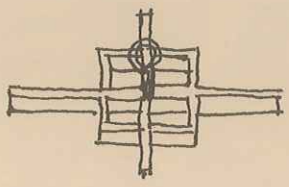




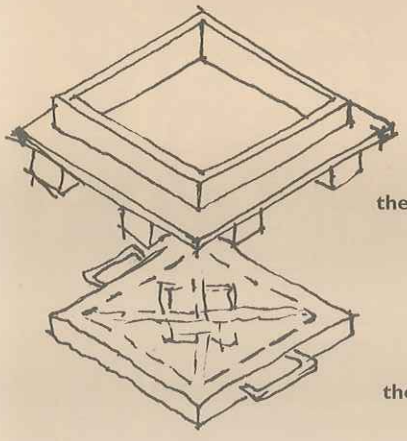




the top *(tarboush)*

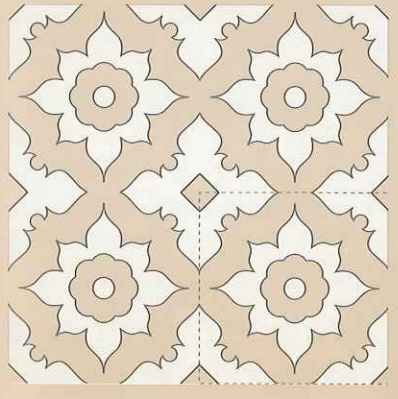


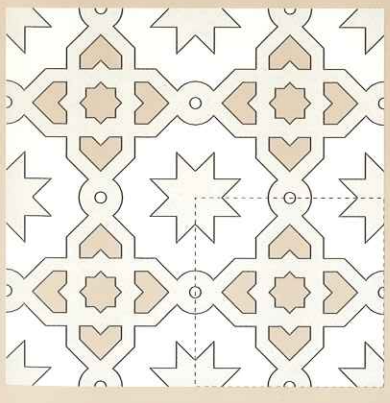
the pattern in steel or copper *(forma)* with a pull-out handle



the frame *(iswarah)*

the base *(tablon)*





body or in-fill patterns and the belt patterns *(zinnar)*. Only the color schemes of in-fill patterns are discussed, since belt patterns were used interchangeably; e.g., [A3], [B3] [C3], [D3]; [C1], [C2]; [A5], [D1], [D2], [D4].

"One-color schemes" consisted mainly of black and gray [A1-A4] and of dark and light brown [A5]. They were complemented by accents of contrasting colors such as olive green, brick red or dark brown, applied on patterns of increasing complexity [B]. The use of bold geometric patterns and contrasting colors resulted in a strong visual impact [A4], [C1], [C2], [C3], while the use of intermediate shades insured a more even spread of tones and colors [C5].

Three-color schemes were based on the same principle of either contrast or complementarity. However, the underlying geometric patterns tended to be more complex and ranged from Neo-Islamic [D] to Art Nouveau and Art Deco [F1], [F2], [F3]. A common practice was the use of different color combinations to fill the same patterns [E1], [E2], [E3], or the use of the different patterns with the same color combination [D1], [E1]. How far was this proliferation of color and shapes locally induced and how far was it a Western import?

The most popular patterns found in low to middle-cost structures were locally manufactured, using imported "forma(s)" from Europe. It may be asssumed that a local tile-maker kept an edge over his competitors by acquiring a large and original collection of patterns and by using different color combinations to expand his production line. However, some patterns were rare and only found in a limited number of buildings [F1], [F2], [F3]. They may have been imported in limited quantities or locally produced, but chosen by a limited number of clients.

A unique pattern found in late transitional buildings is [F4], which consists of irregular patches of bright colors merging into each other. No forma could have been used to produce such a pattern, indicating a fundamental deviation from the use of geometric figures and prefiguring the random patterns of terrazo or mosaic tiles. Another sign of this transition is the use of fine gravel in the colored cement mix, as in [5] (difficult to detect in the scale of the picture). The progressive use of coarser gravel eventually led to the disappearance of cemento tiles starting in the mid-1940s.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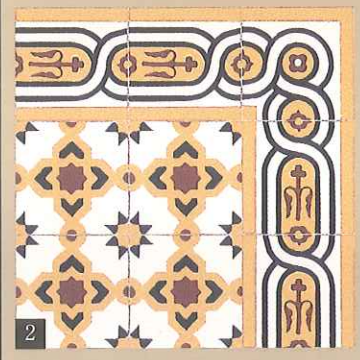

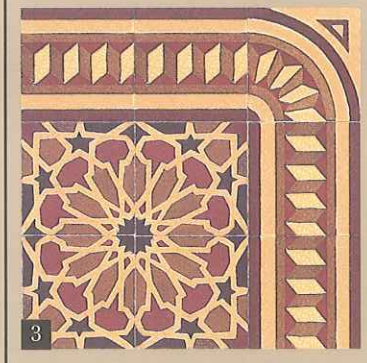

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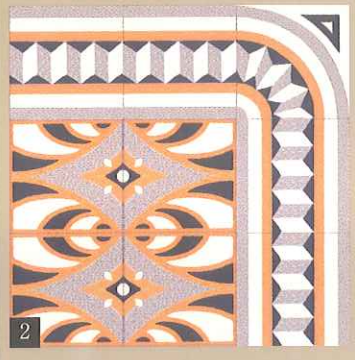

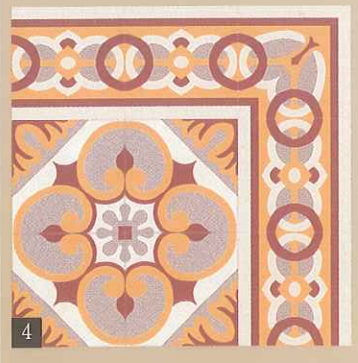

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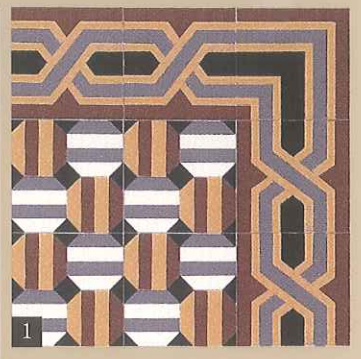

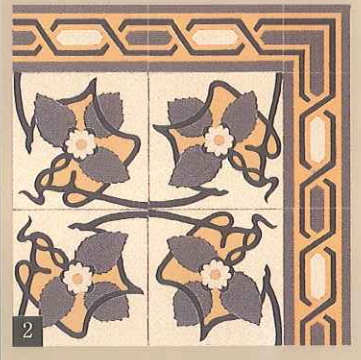

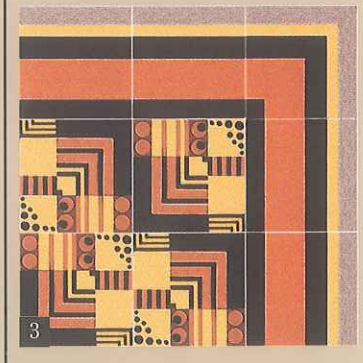

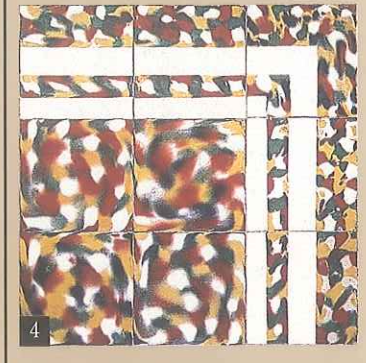

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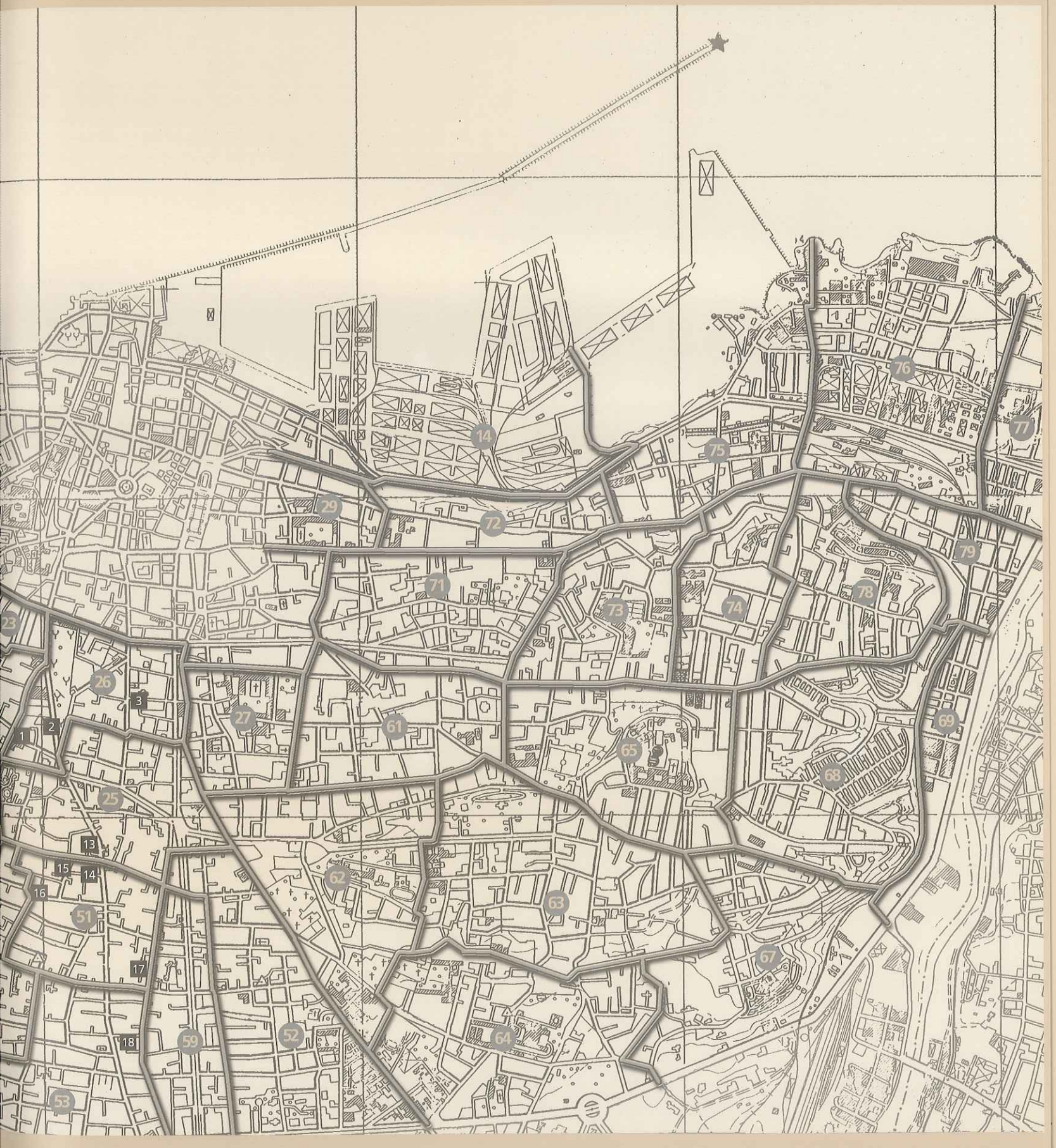
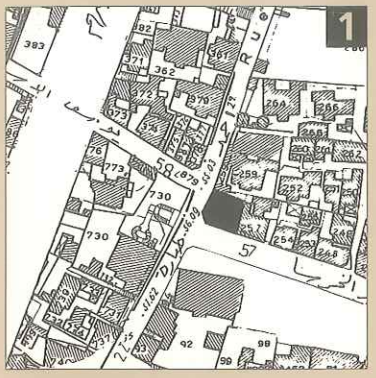
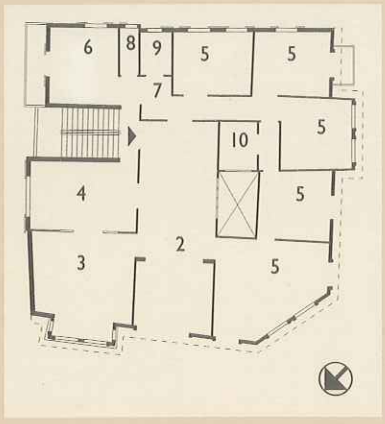
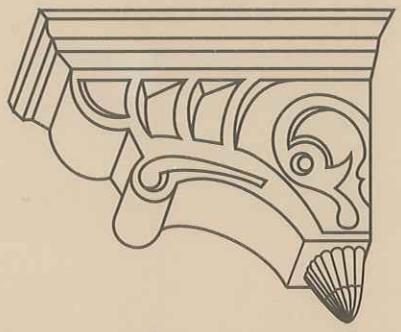
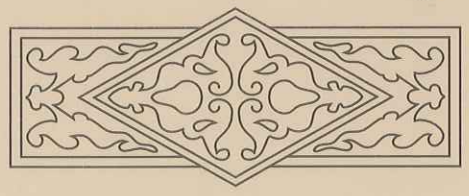
Architectural Survey











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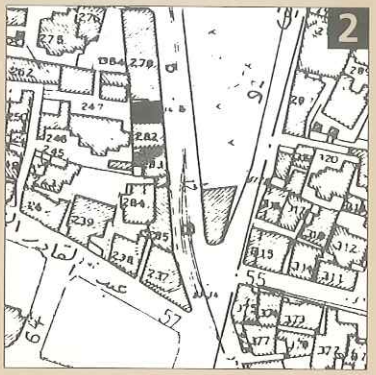
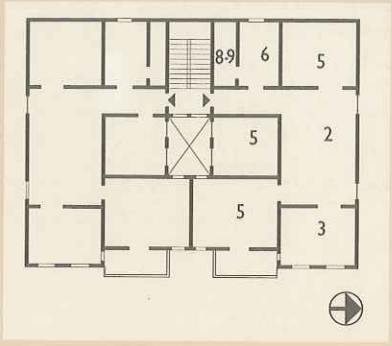
sector # - lot # : **26 - 258**
street name : **AHMED TABBARA**

Surveyed by : Souraya Karami, Karim Muallem, Wissam Salameh.





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street name : **BASTA**

Surveyed by : Issa el Hajj, Nadine Hindi, Jimmy Tadros.

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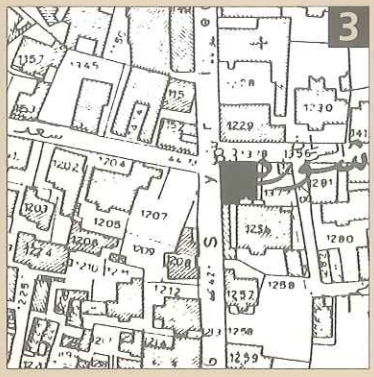

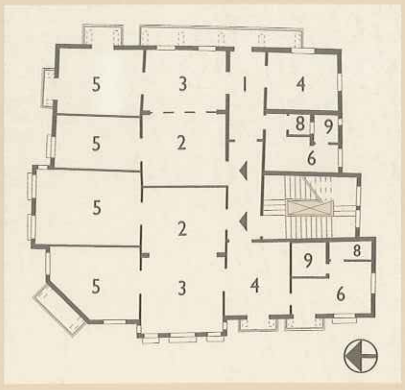

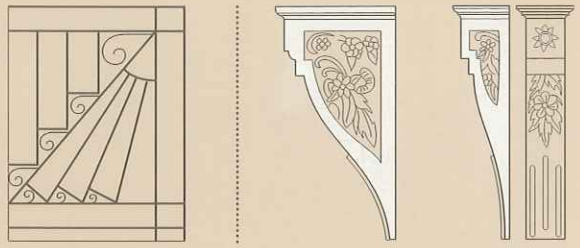

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sector # - lot # : **26 - 1376**
street name : TYAN

Surveyed by : Issa el Hajj, Nadine Hindi, Jimmy Tadros.

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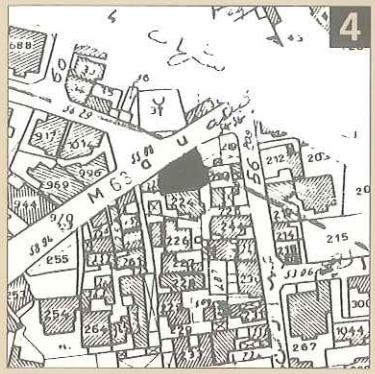

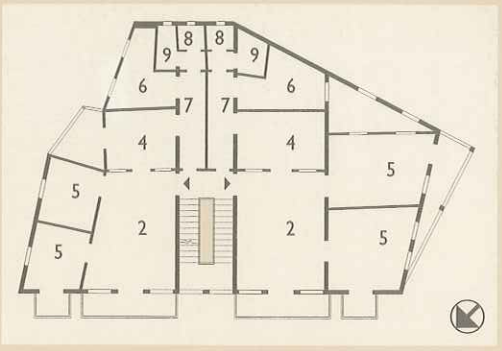

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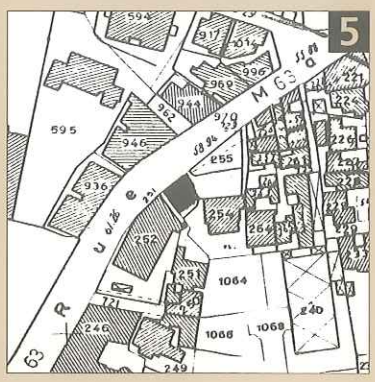
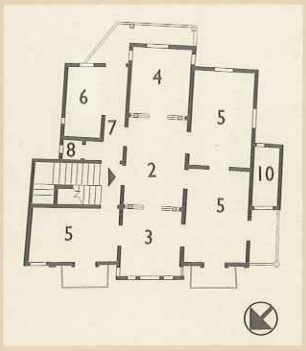
sector # - lot # : **23 - 221**
street name : **MAURICE BARRES**

Surveyed by : Chekri Abou Saab, Ahmad Jammal, Christine Mady.

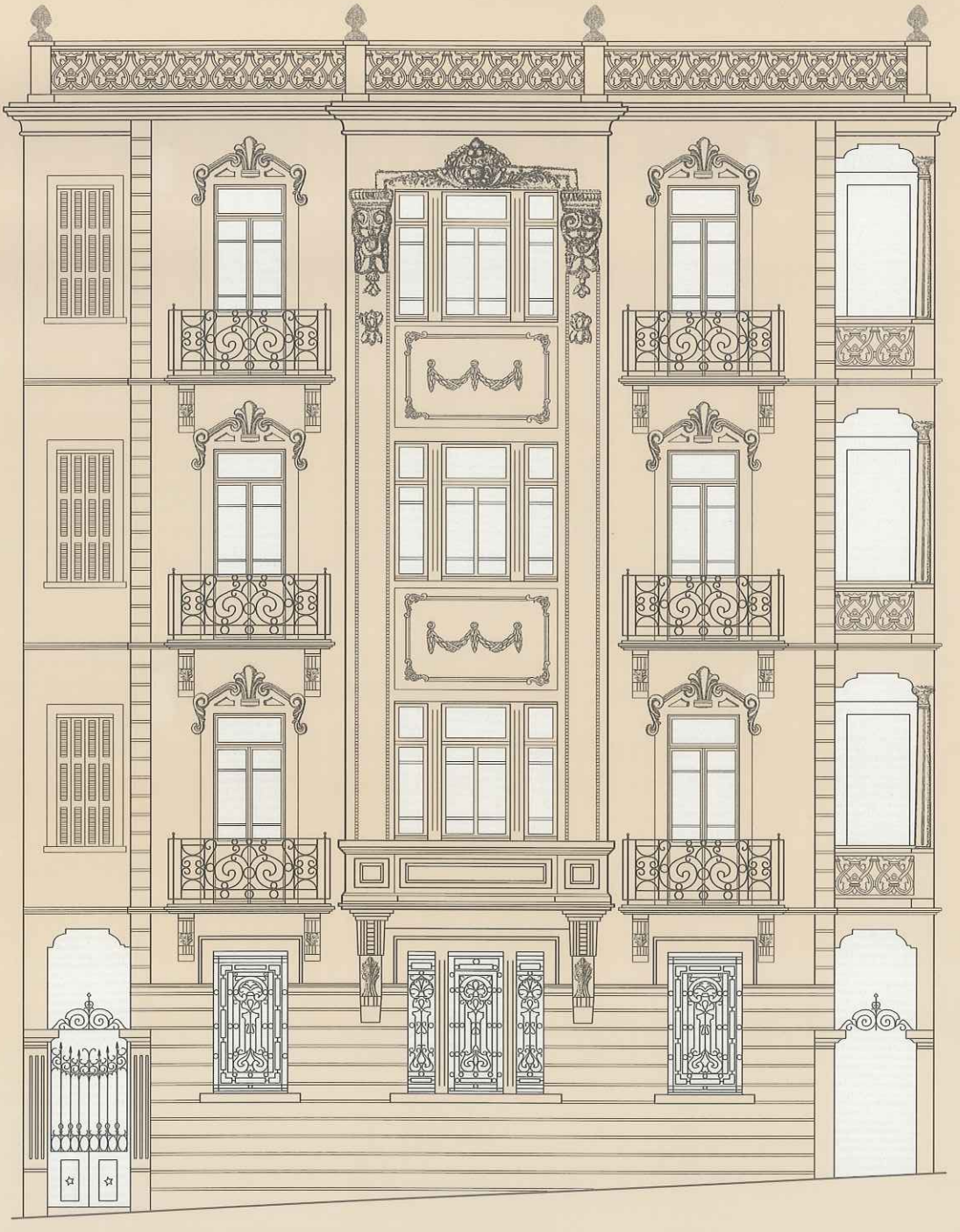
0m 1 2



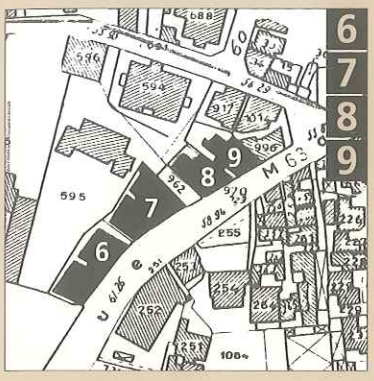


sector name : **SERAIL**
sector # - lot # : **23 - 253**
street name : **MAURICE BARRES**

Surveyed by : Noha el Khoury, Dalia Moufarrege, Johnny Salman.

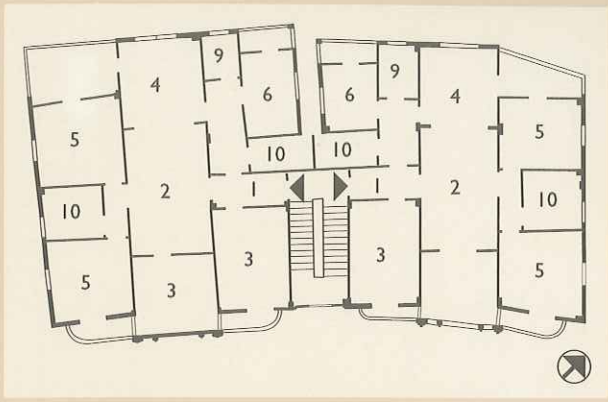


0m 1 2



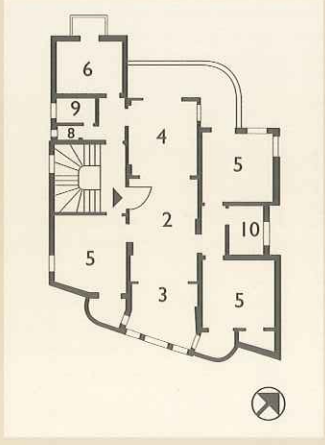
sector name : **SERAIL**
sector # - lot # : **23 - 936 / 944 / 969**
street name : **MAURICE BARRES**

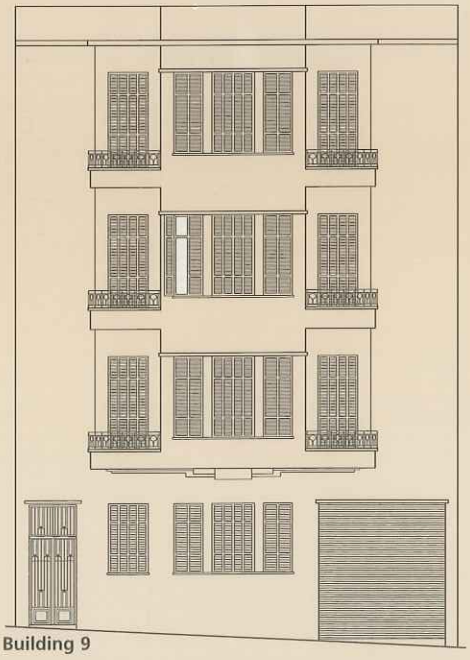
Surveyed by : Kaline Hayek, Rindala Iskandar, Maya Karanouh, Lina Baki Zada, Samir Hakim, Ghassan Maasri.



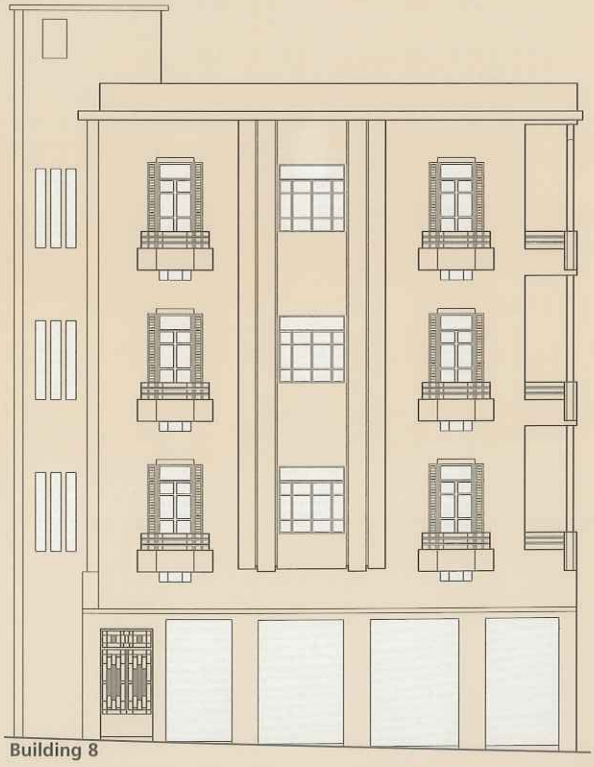
Building 7 is identical to Building 6 in elevation and plan.

Building 6



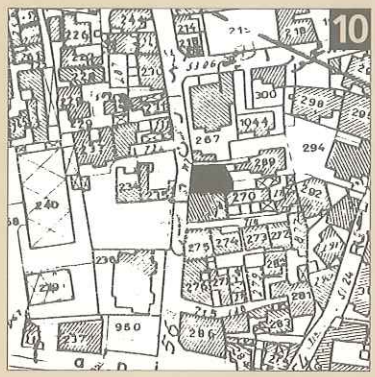


Building 9



Building 8

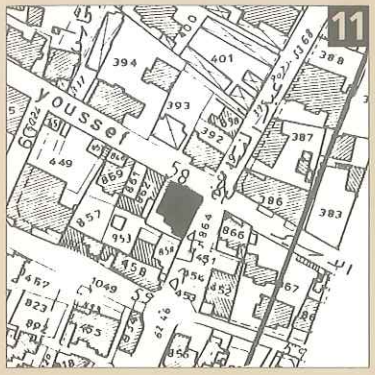
0m 2 4

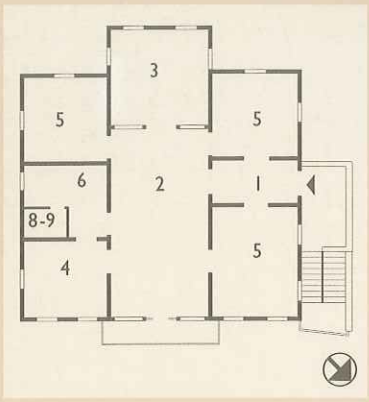


sector name : SERAIL
sector # - lot # : **23 - 268**
street name : A. R. NAHHAS

Surveyed by : Souraya Karami, Karim Mouallem, Wissam Salameh.

0m 1 2

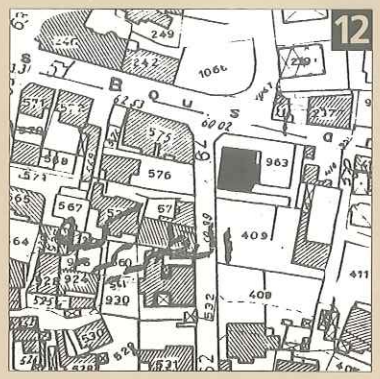




sector name : PATRIARCAT
sector # - lot # : **24 - 863**
street name : YOUSSEF ASSIR

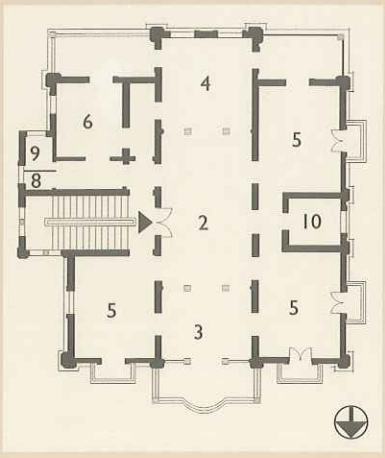
Surveyed by : Dania Akhal, Mohammad Arayssi, Naji Moujaes.

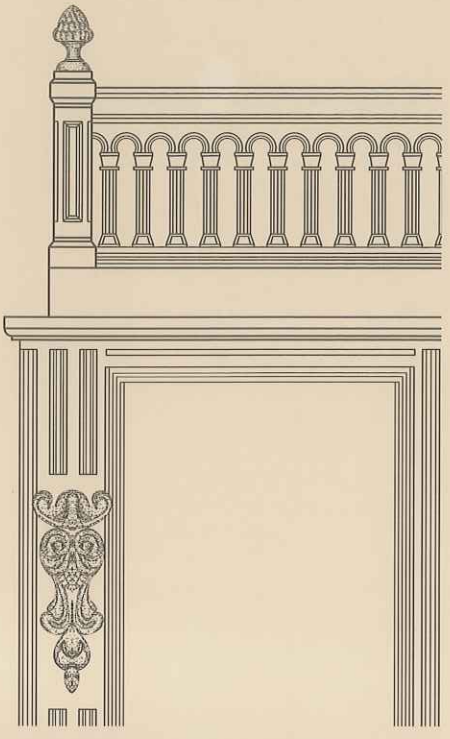
0m 1 2

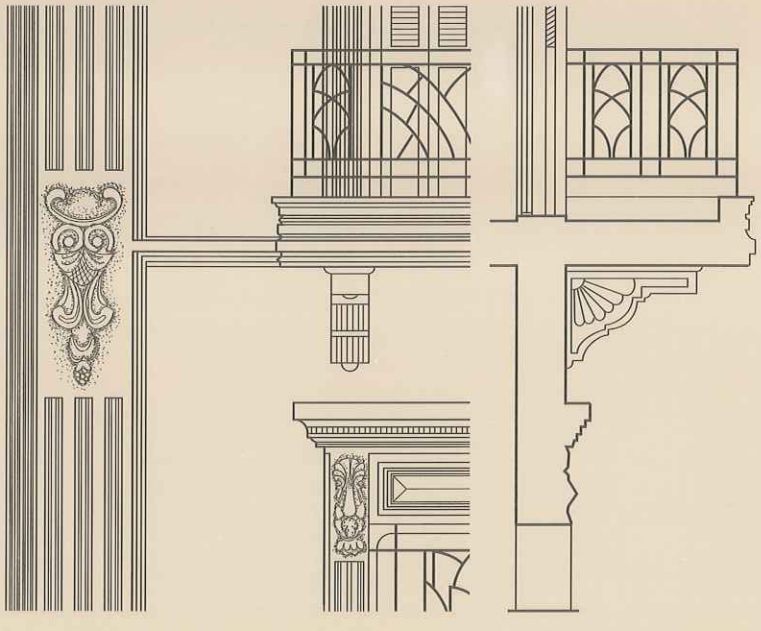


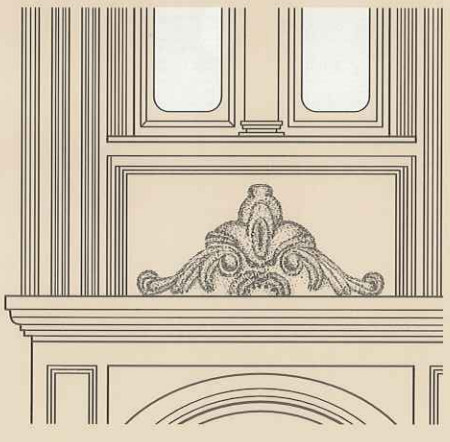
sector name : **PATRIARCAT**
sector # - lot # : **24 - 963**
street name : **BOUTROS BOUSTANI**

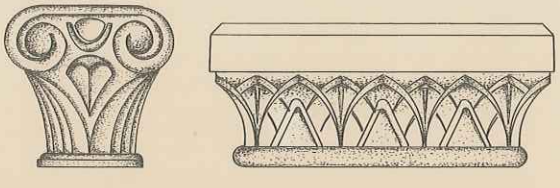
Surveyed by : Nadia Alaily, Carine Fakhreddine, Mazen Soueidan.

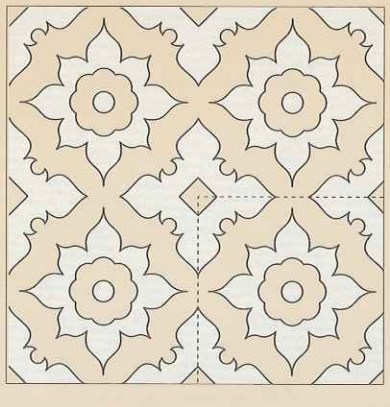


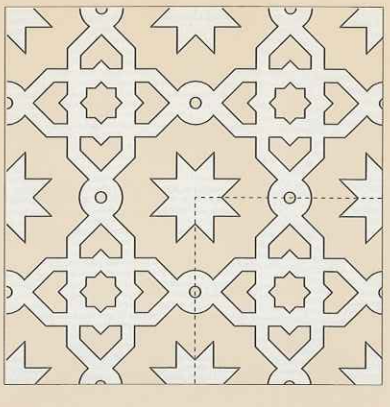


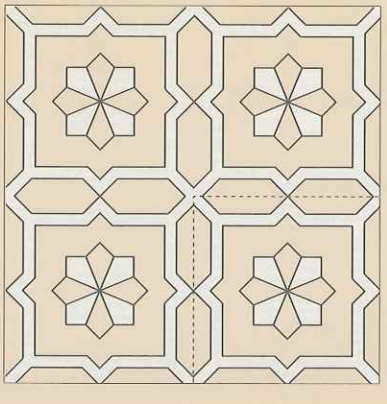




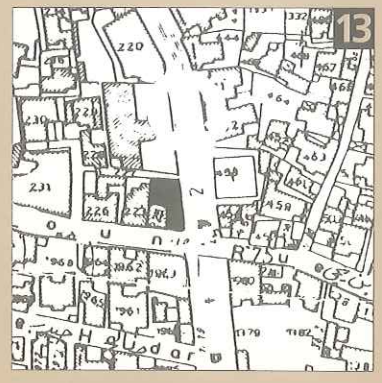


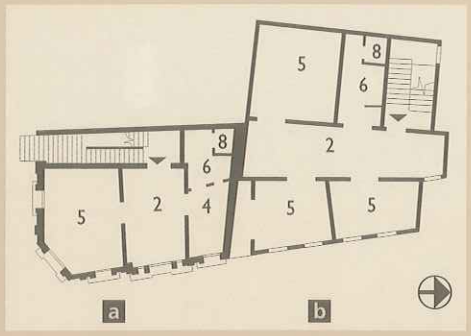


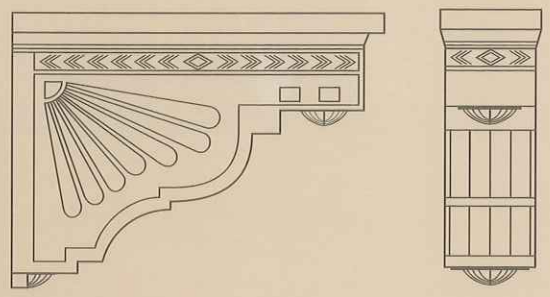





0m 1 2



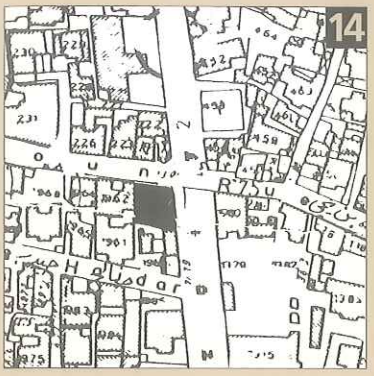


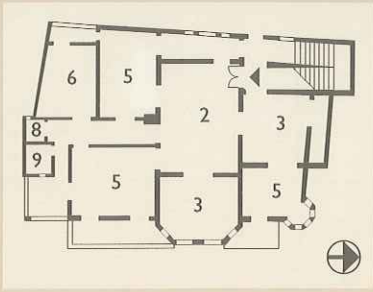


sector name : BASTA TAHTA
sector # - lot # : 25 - 222/224
street name : BASTA

Surveyed by : Nadia Alaily, Carine Fakhreddine, Mazen Soueidan.

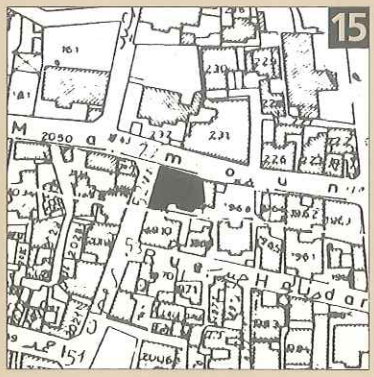
0m 1 2

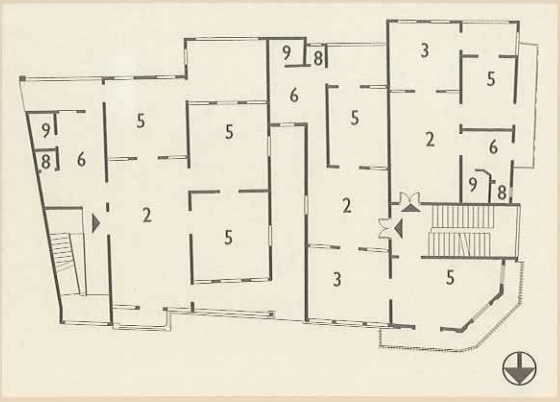




sector name : **BASTA FAOUKA**
sector # - lot # : **51 - 1963**
street name : **BASTA**

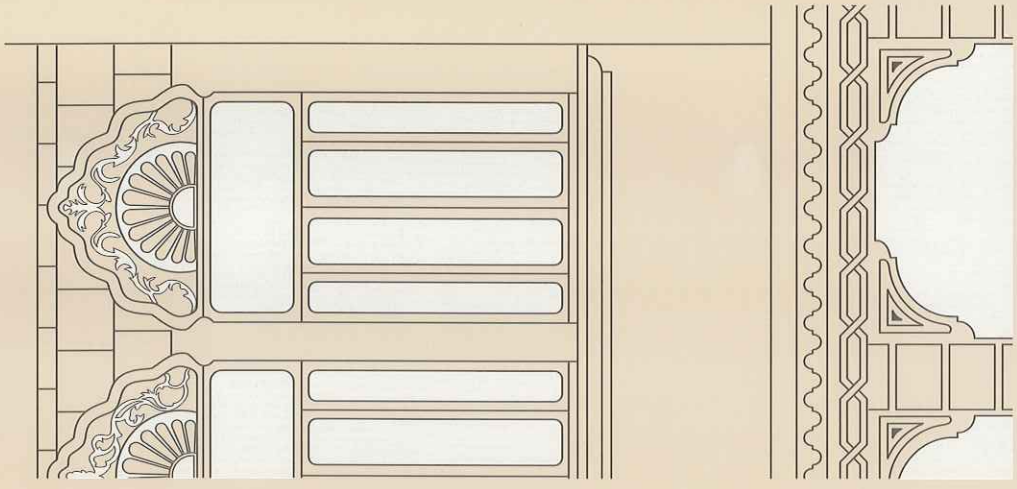
Surveyed by : Issa el Hajj, Nadine Hindi, Jimmy Tadros.

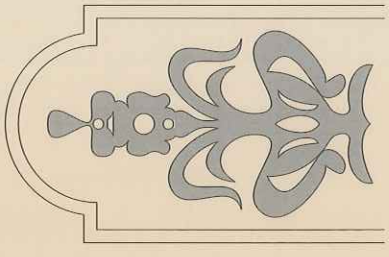


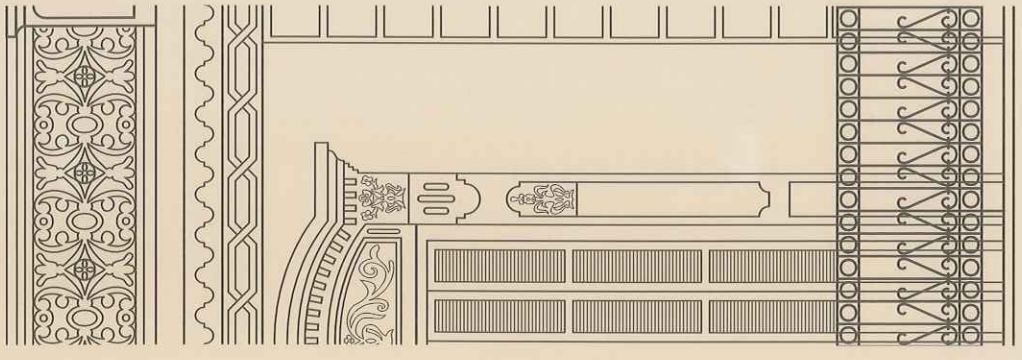


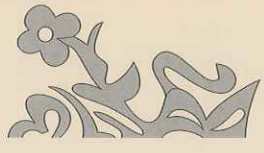
sector name : BASTA FAOUKA
sector # - lot # : **51 - 1986**
street name : MAAMOUN

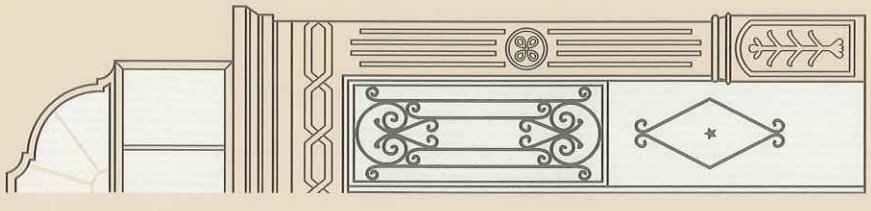
Surveyed by : Noha el Khoury, Dalia Moufarrege, Johnny Salman.



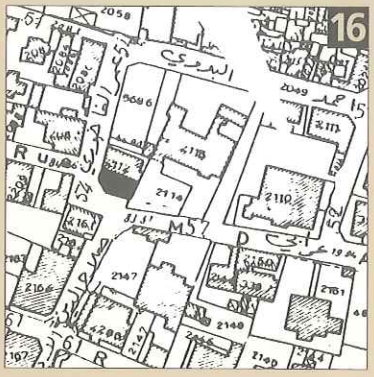






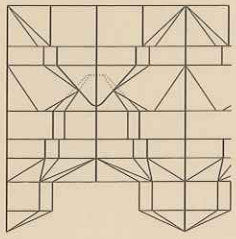


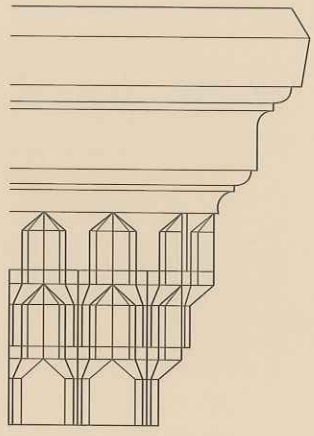

0m 1 2

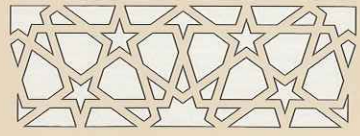


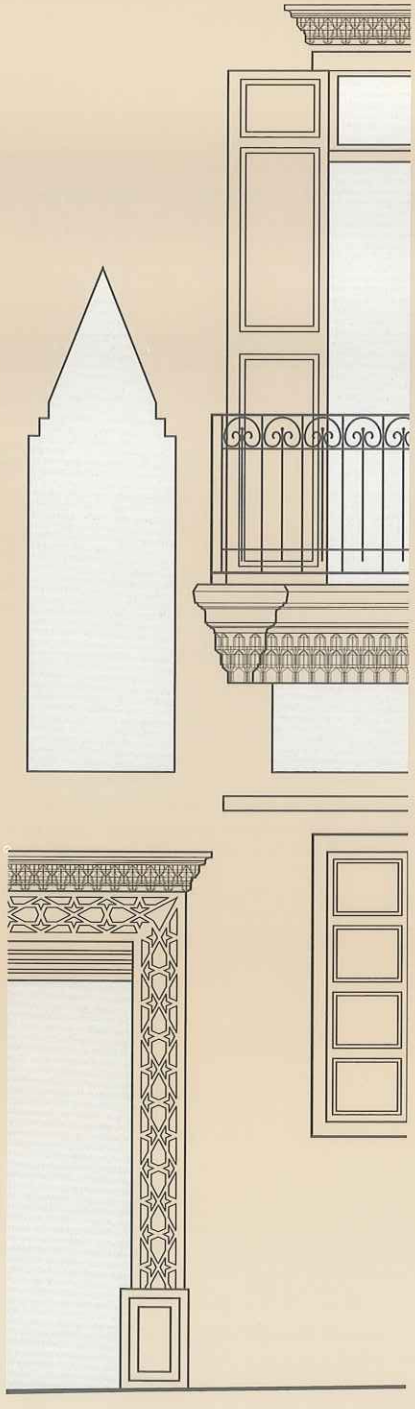
sector name : **BASTA FAOUKA**
sector # - lot # : **51 - 2113**
street name : **MOUHEDDINE ARABI**

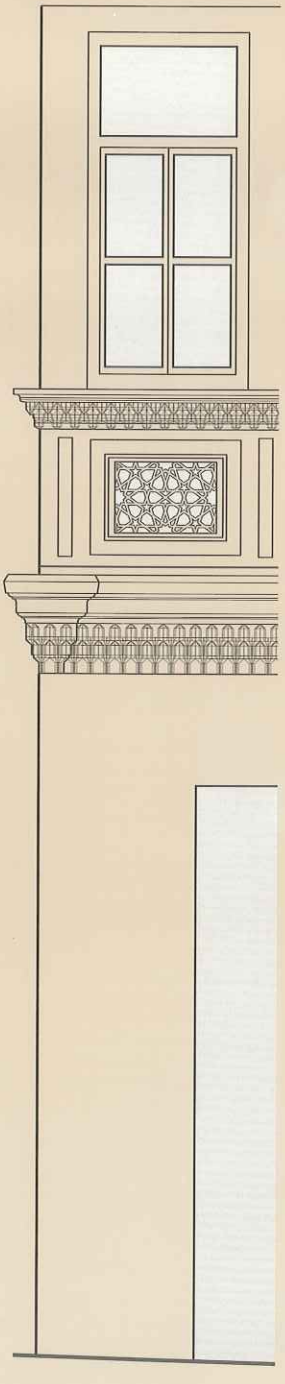
Surveyed by : Lina el Majzoub, Amal Takkoush, Vahe Topakian.



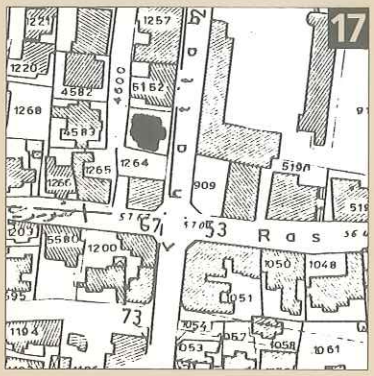


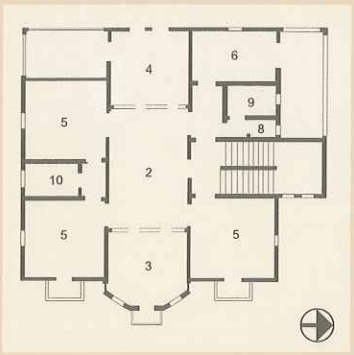






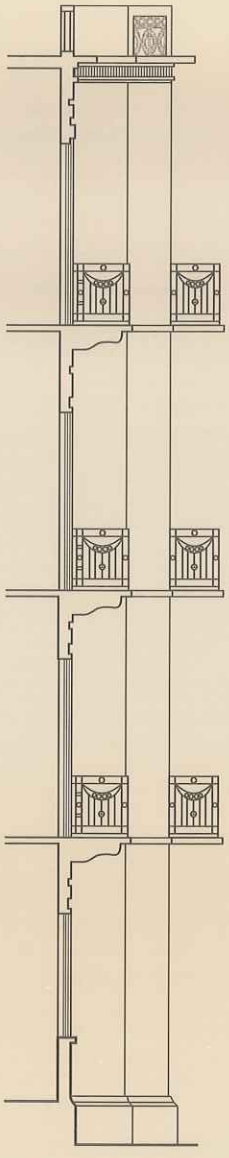

0m 1 2



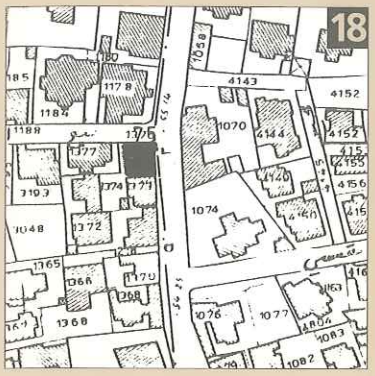


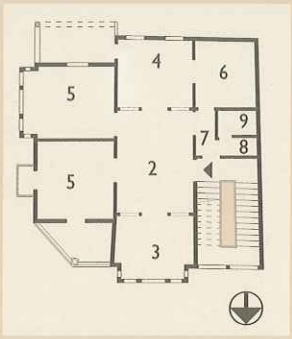
sector name : **BASTA FAOUKA**
sector # - lot # : **51 - 1259**
street name : **OMAR BIN EL KHATTAB**

Surveyed by : Dania Akhal, Mohammad Arayssi, Naji Moujaes.



0m 1 2

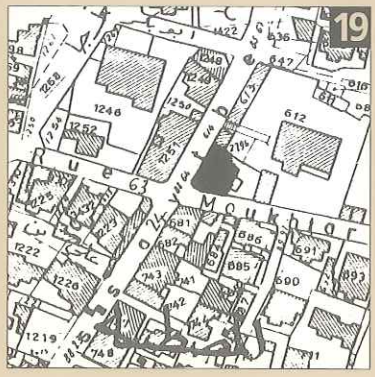




sector name : **MAZRAA**
sector # - lot # : **53 - 3139**
street name : **OMAR BEN EL KHATTAB**

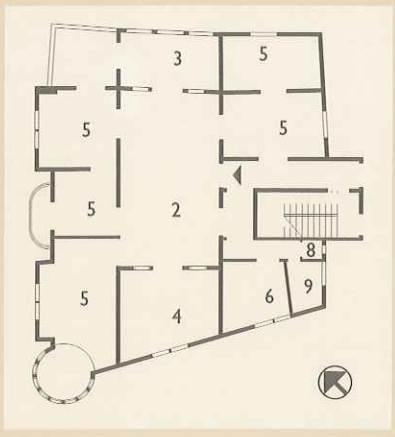
Surveyed by : Dania Akhal, Mohamed Arayssi, Naji Moujaes.

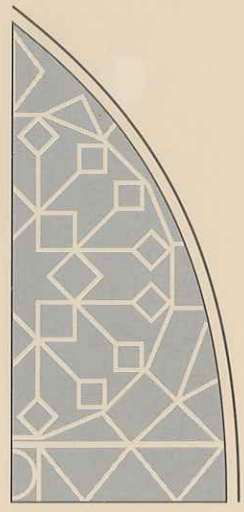
0m 1 2

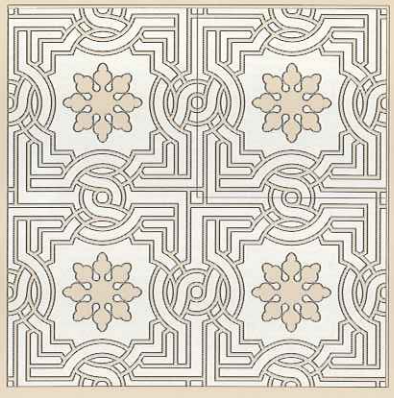


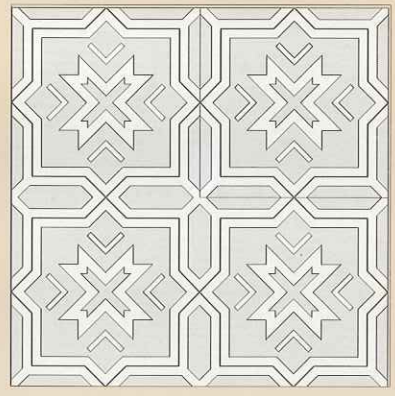
sector name : **MOUSSAITBE**
sector # - lot # : **49 - 615**
street name : **MOUSSAITBE**

Surveyed by : Lina el Majzoub, Amal Takkoush, Vahe Topakian.

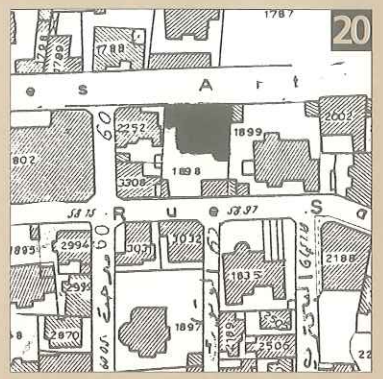


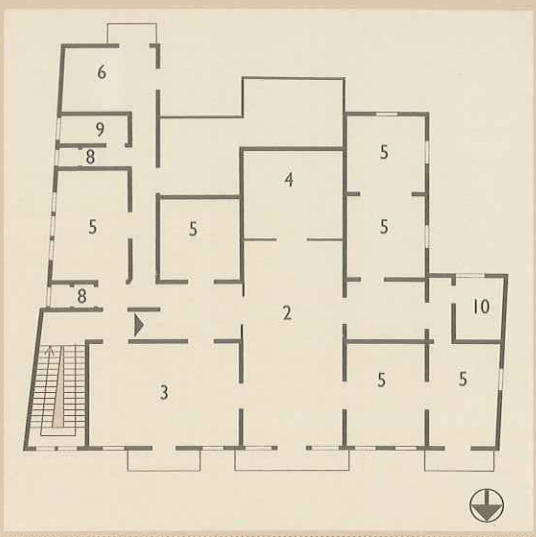






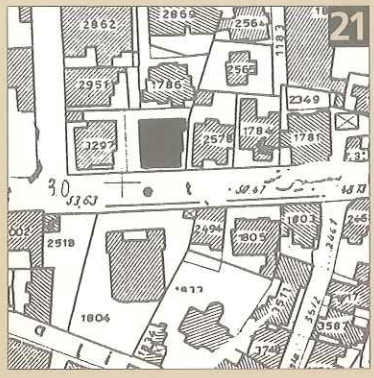
0m 1 2





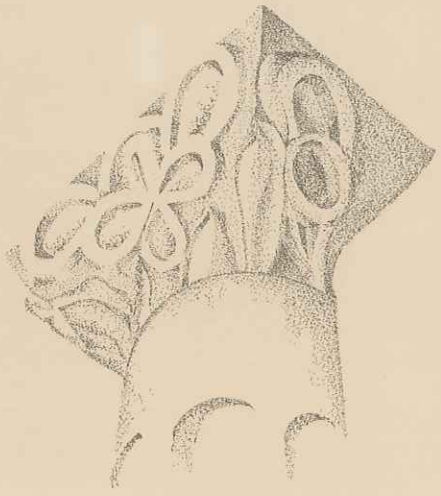
sector name : **EL ZARIF**
sector # - lot # : **40 - 1898**
street name : **SPEARS**

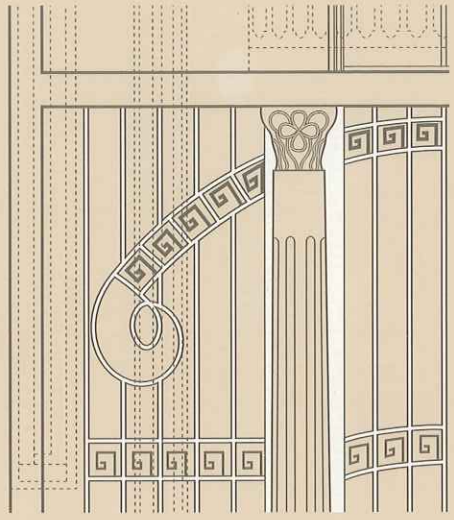
Surveyed by : Lina el Majzoub, Amal Takkoush, Vahe Topakian.



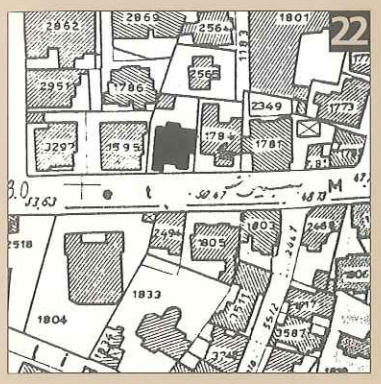
sector name : KANTARI
sector # - lot # : **22 - 1595**
street name : SPEARS

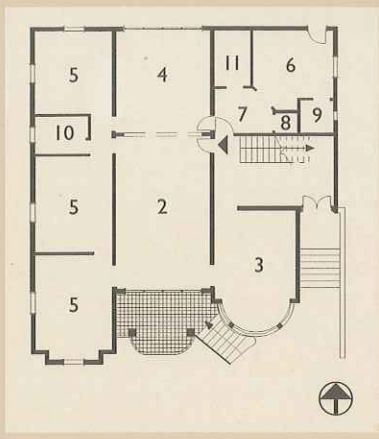
Surveyed by : Asmahan Abou-Jawdeh,
Ivan Limanski, Lana Yamak.

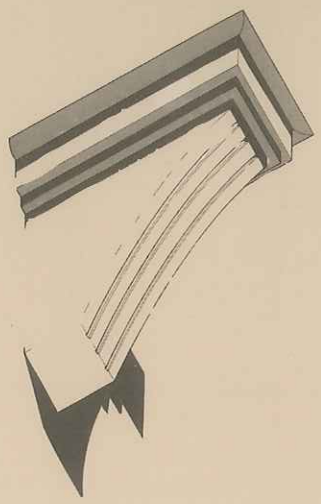




0m 1 2

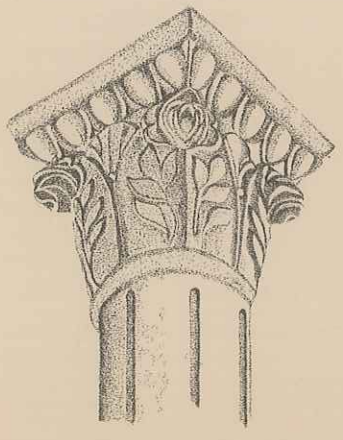


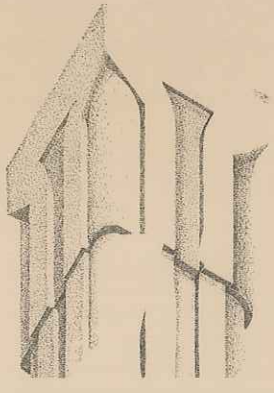


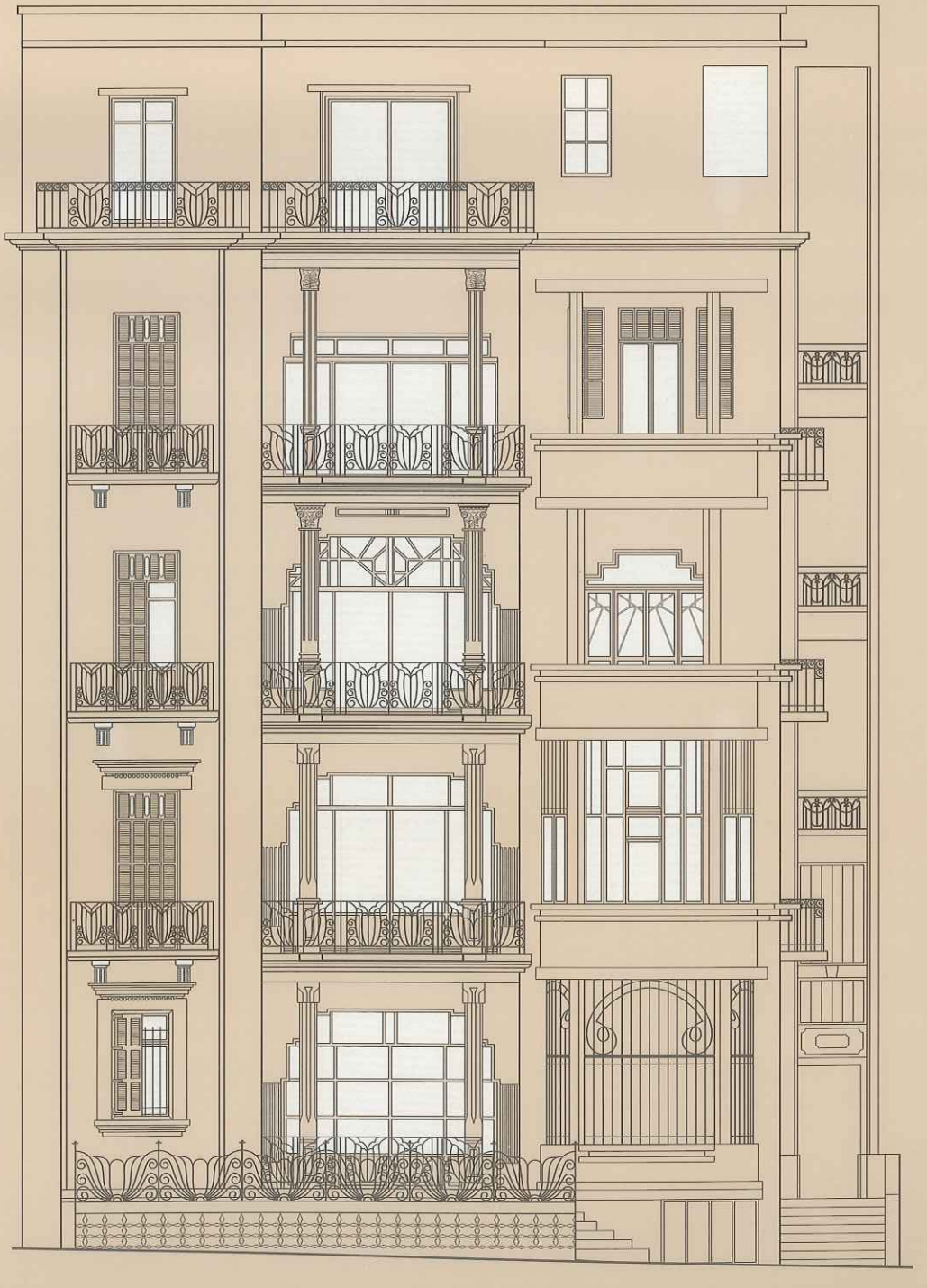


sector name : **KANTARI**
sector # - lot # : **22 - 2578**
street name : **SPEARS**

Surveyed by : Asmahan Abou-Jawdeh, Ivan Limanski, Lana Yamak.







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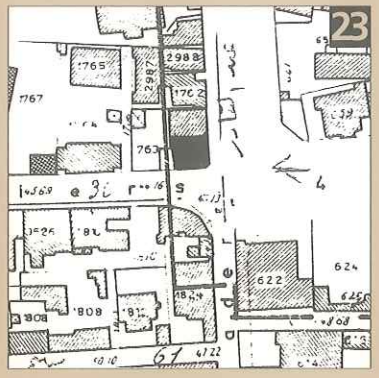
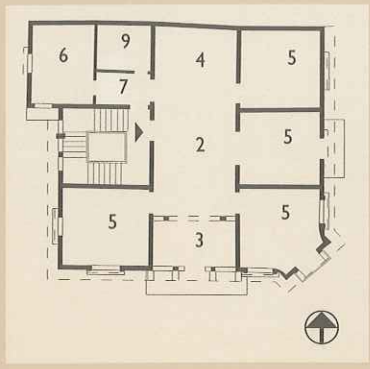
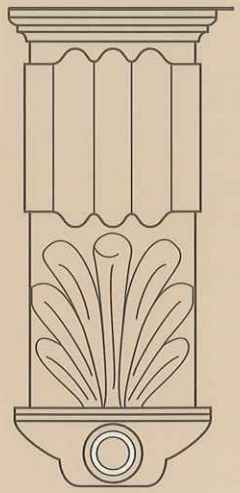
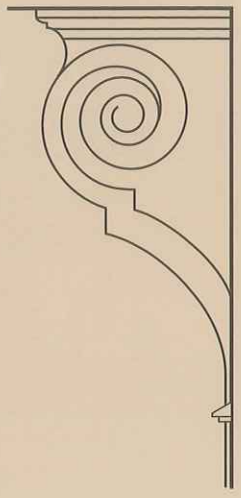




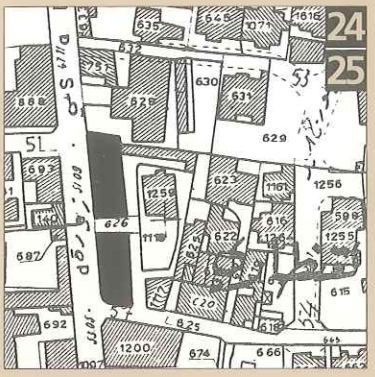




sector name : **KANTARI**
sector # - lot # : **22 - 1719**
street name : **FAKHREDDINE - SPEARS**

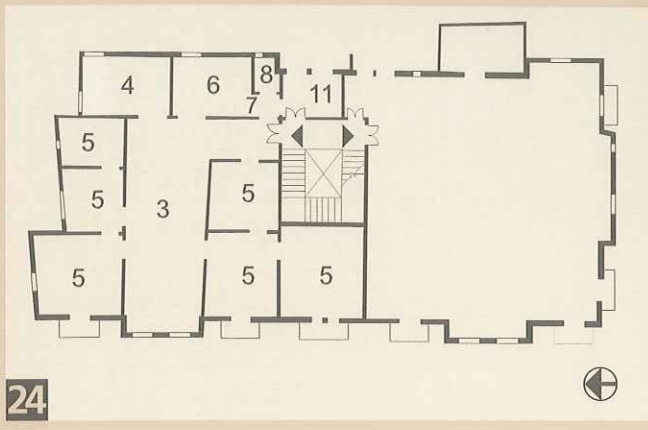
Surveyed by : Souraya Karami, Karim Mouallem, Wissam Salameh.

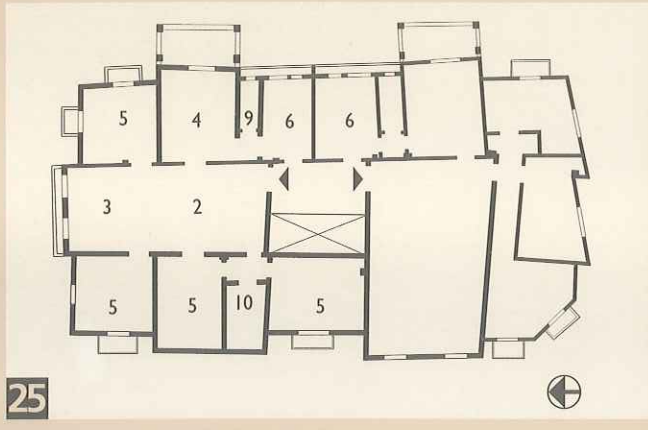
0m 1 2

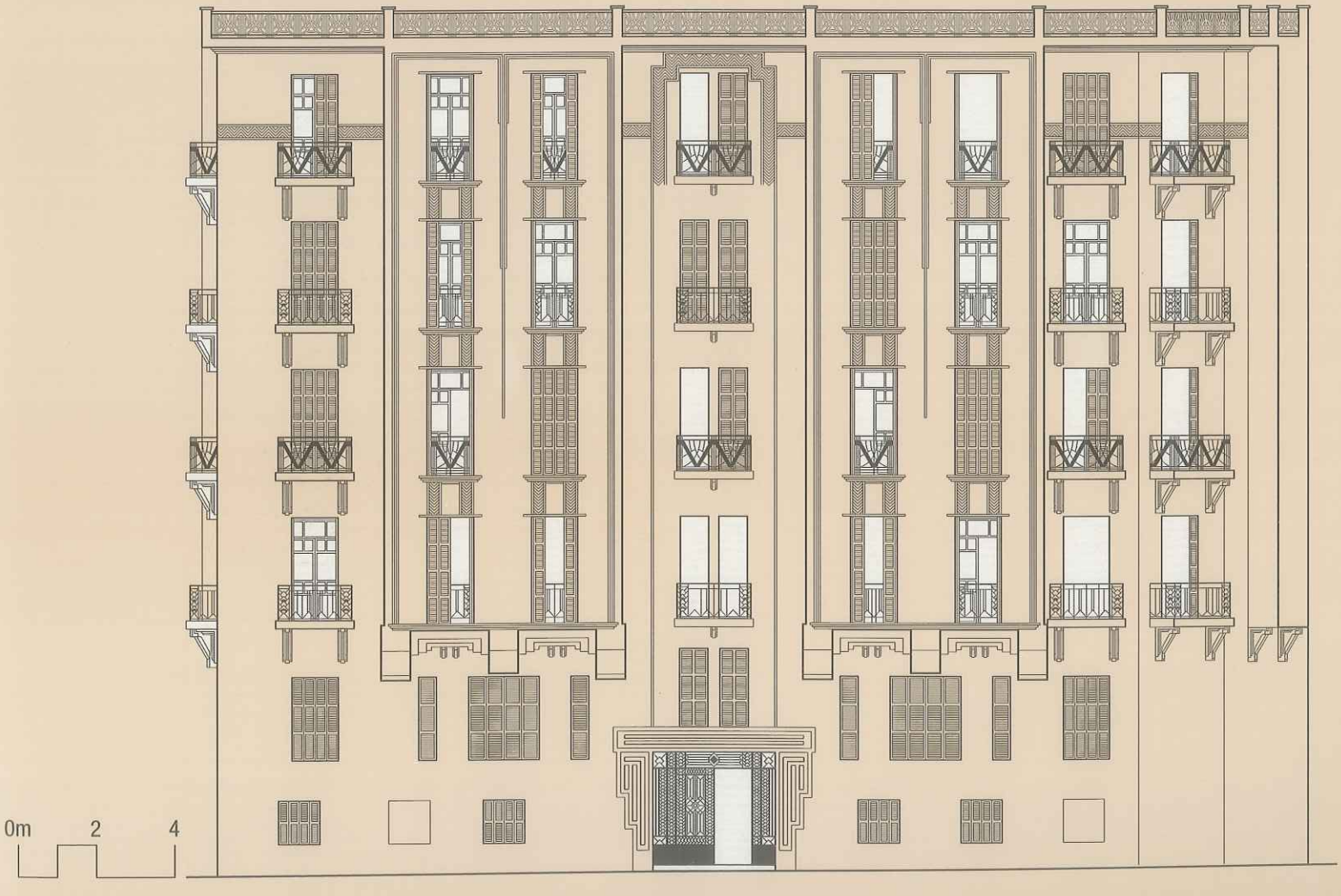


sector name : **KANTARI**
sector # - lot # : **22 - 1115**
street name : **MAY ZIADE**

Surveyed by : Dany Abla, Makram Kadi, Hagop Panossian.

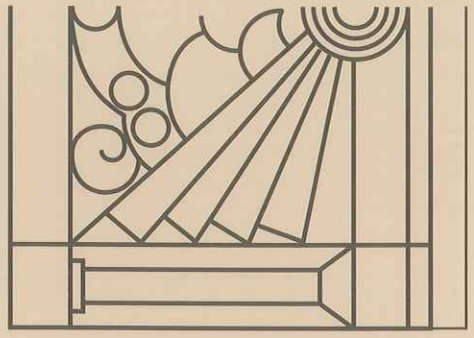


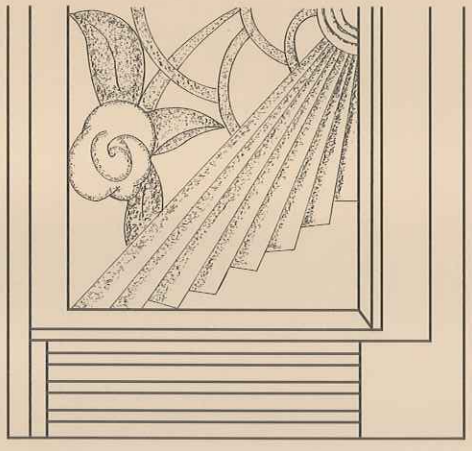


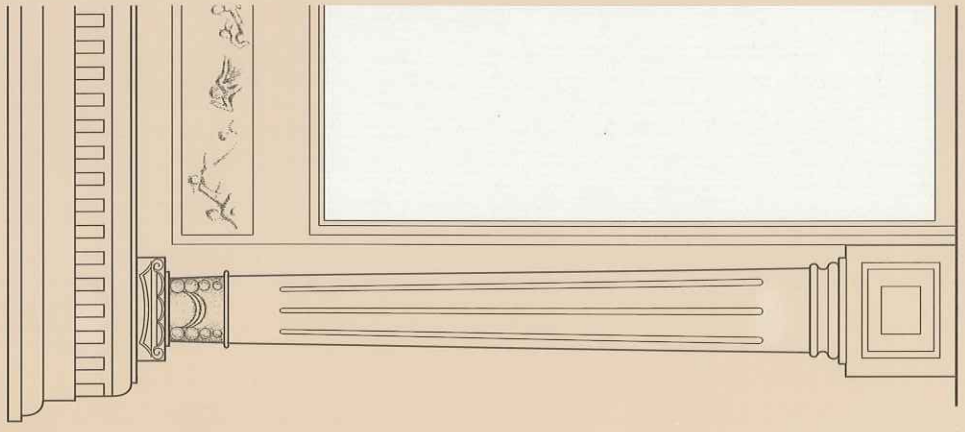


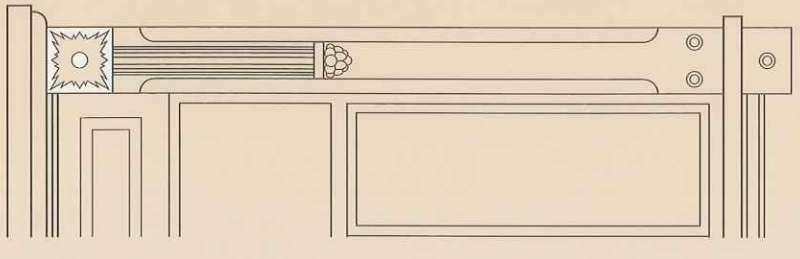
sector name : KANTARI
sector # - lot # : 22 - 596
street name : (DEAD END STREET)

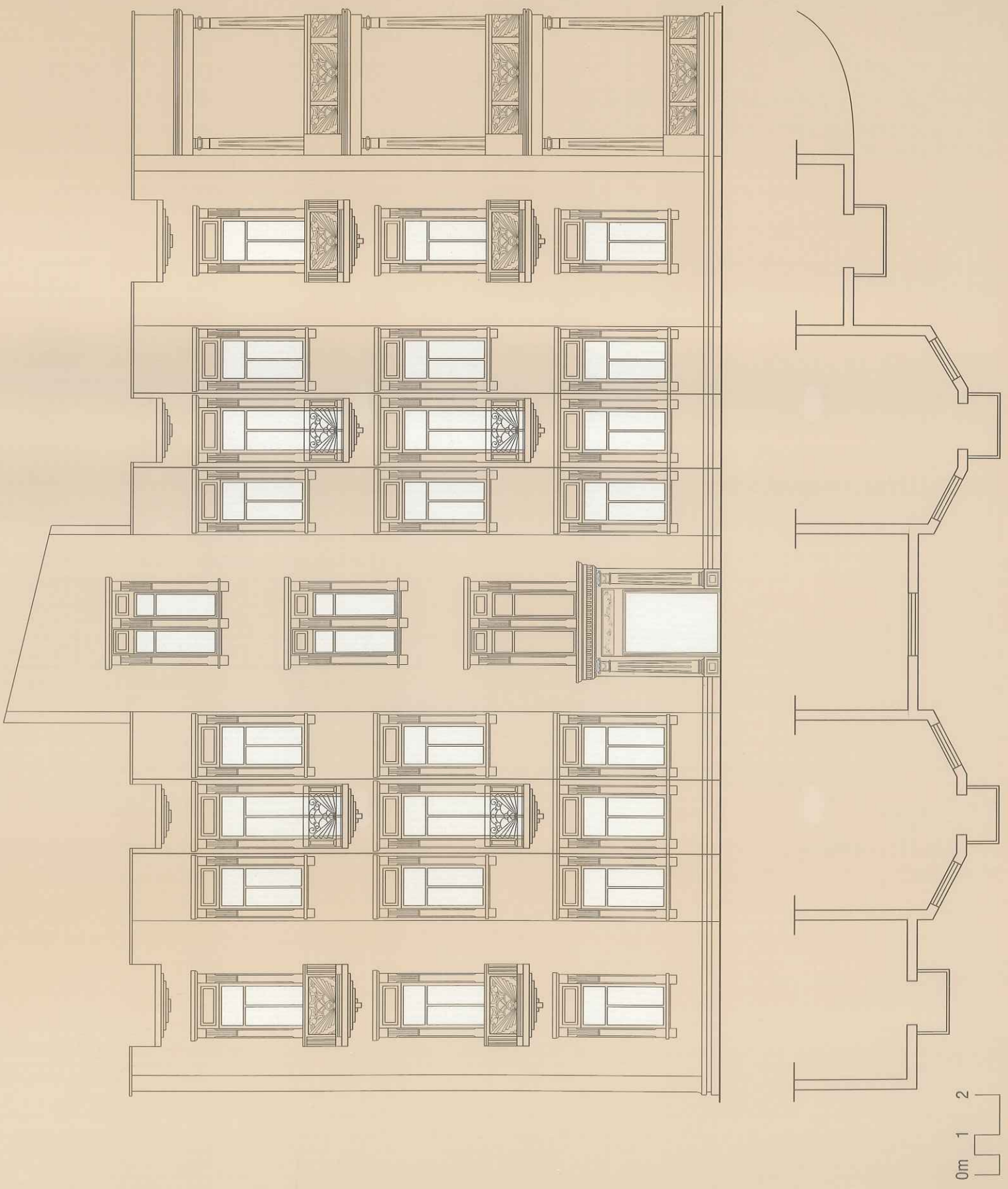
Surveyed by : Issa el Hajj, Nadine Hindi, Jimmy Tadros.







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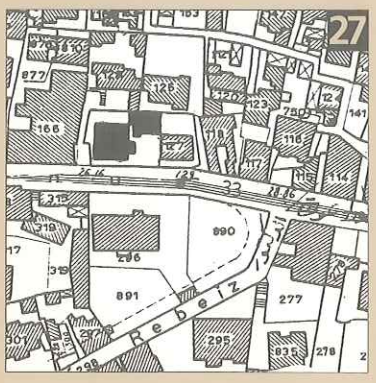
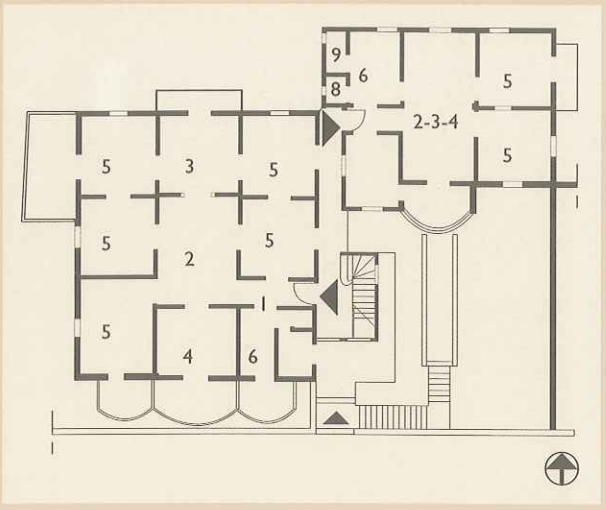
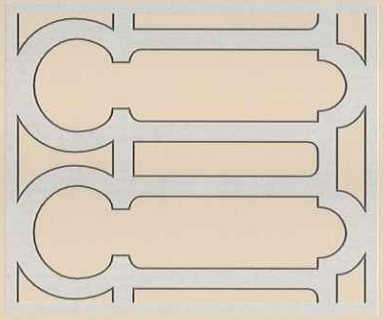
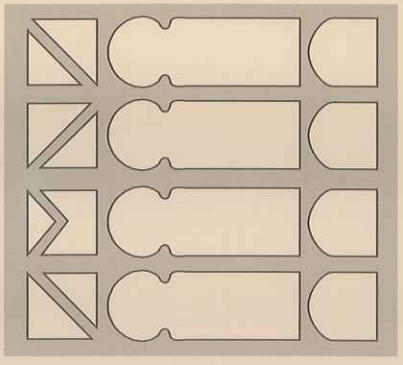


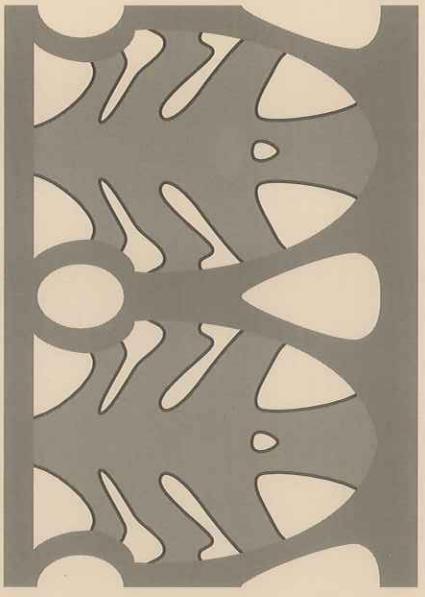
sector name : AIN EL MREISSE
sector # - lot # : 30 - 127
street name : JOHN KENNEDY

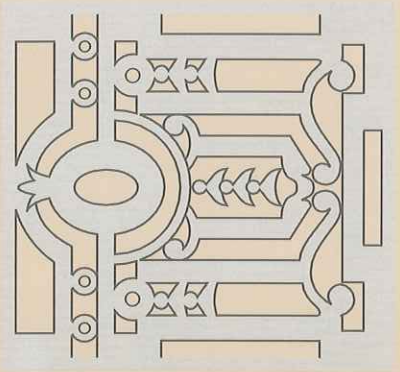
Surveyed by : Lina el Majzoub, Amal Takkoush, Vahe Topakian.

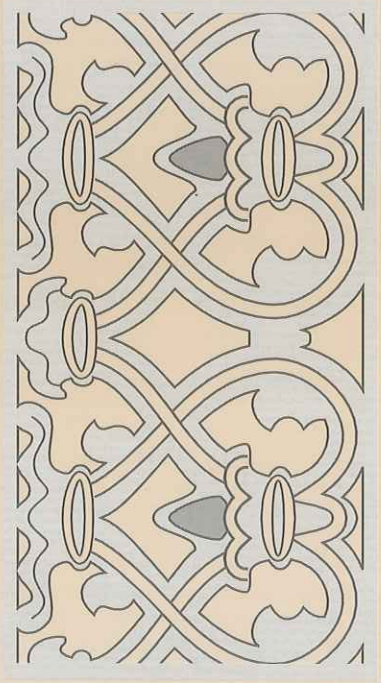


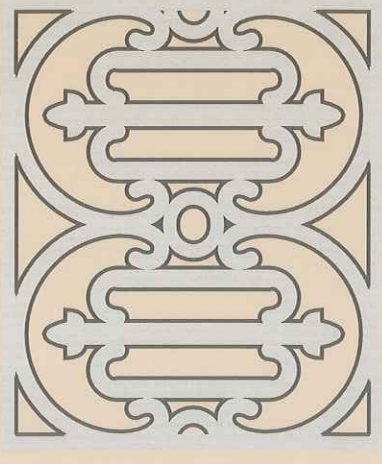


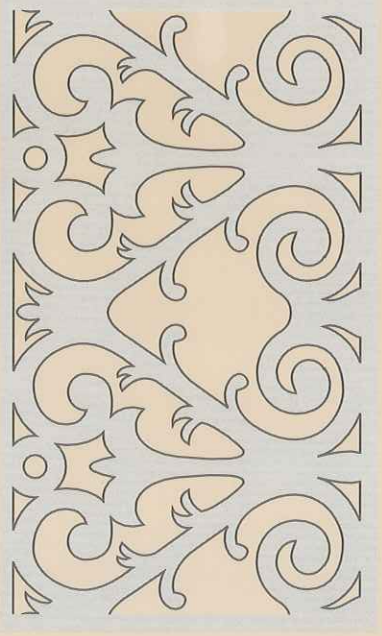


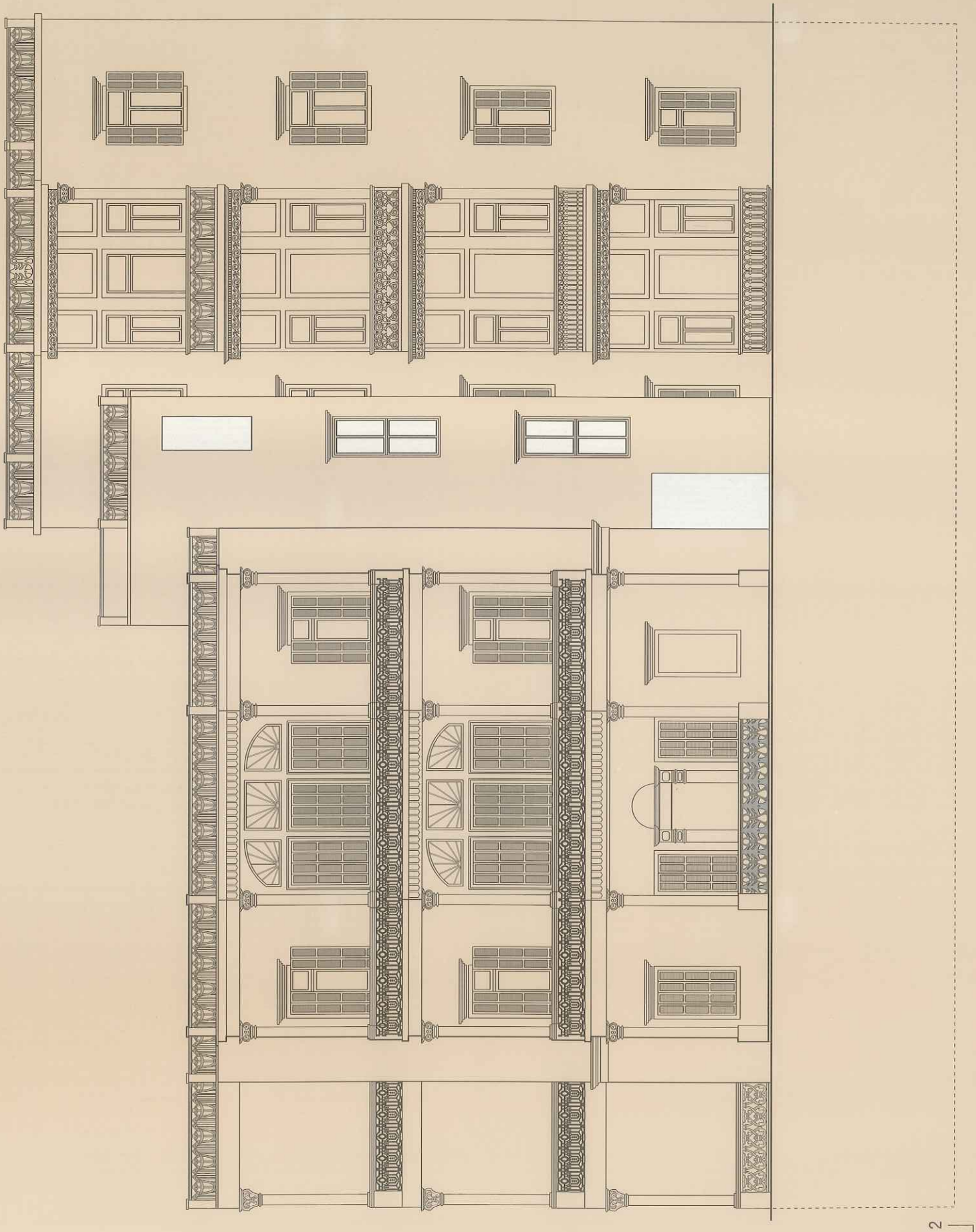












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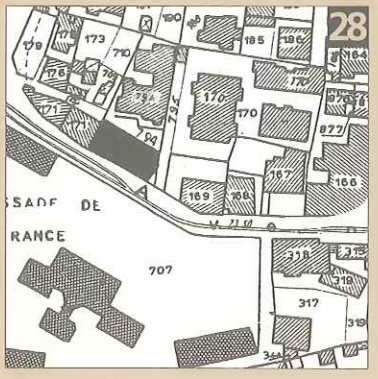
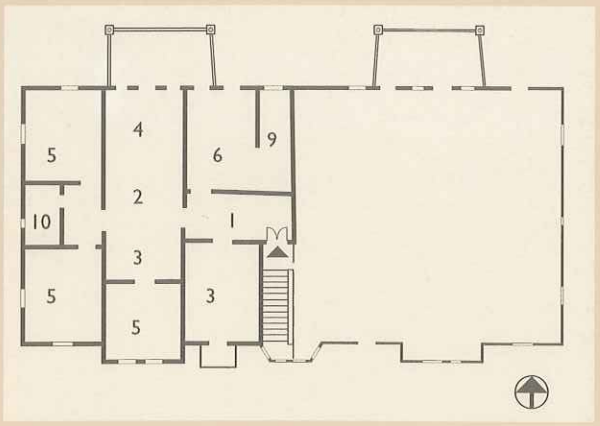
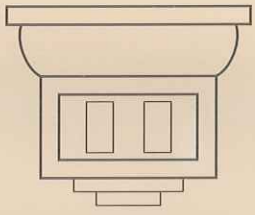
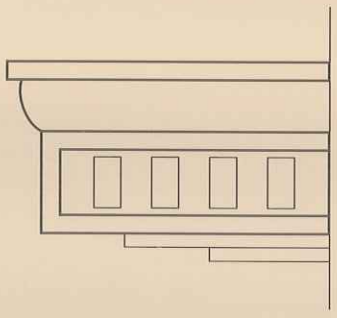


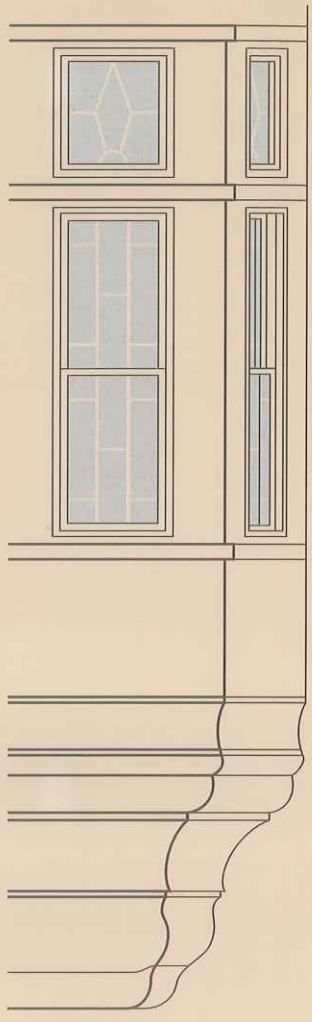


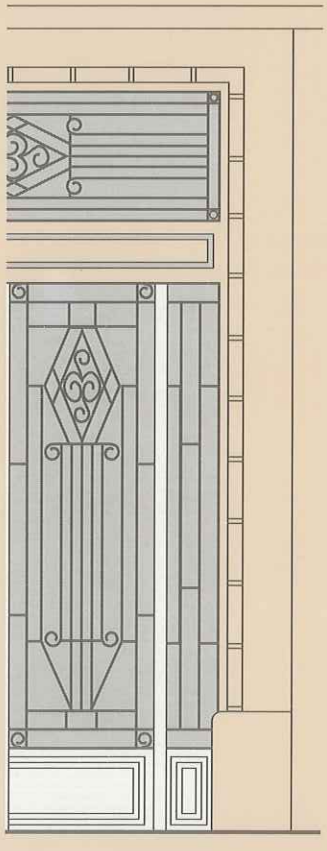
sector name : AIN EL MREISSE
sector # - lot # : **30 - 194**
street name : JOHN KENNEDY

Surveyed by : Noha el Khoury, Dalia Moufarrege, Johnny Salman.









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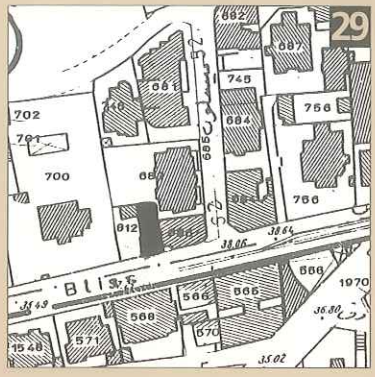
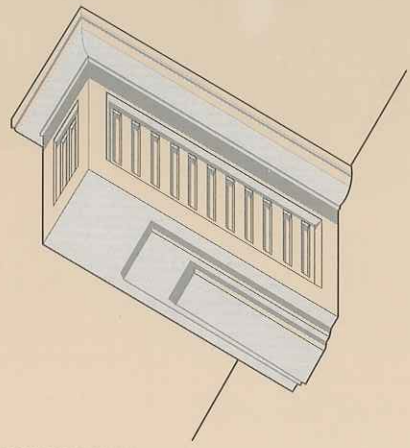


sector name : RAS BEYOUTH
sector # - lot # : 35 - nl
street name : BLISS

Surveyed by : Dania Akhal, Mohammad Arayssi, Naji Moujaes.



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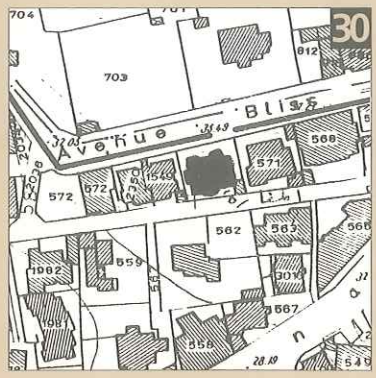
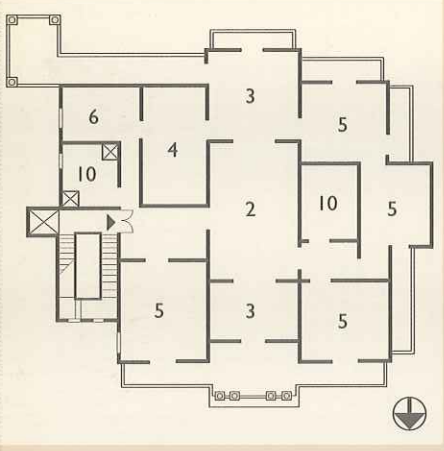
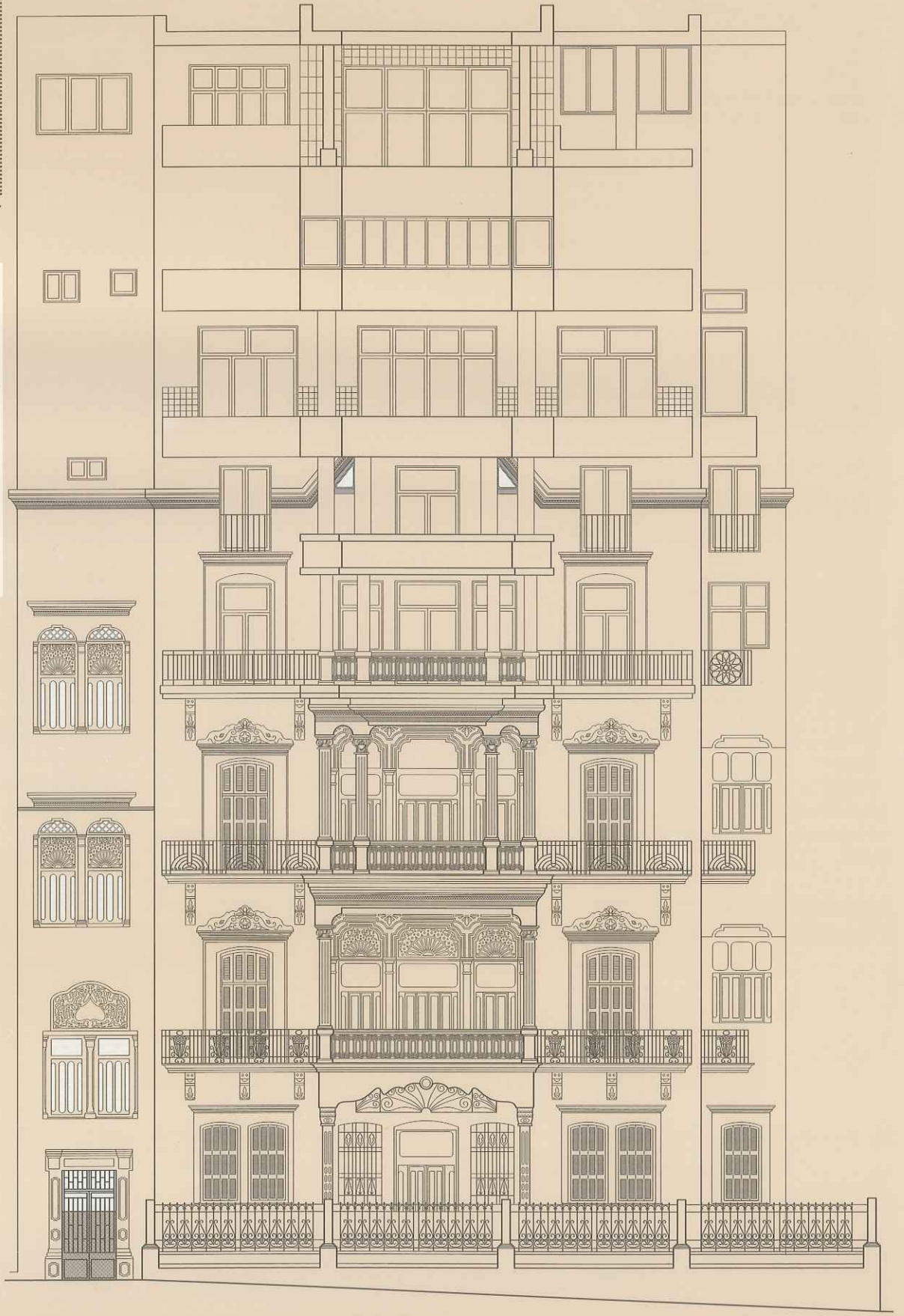


sector name : MANARA
sector # - lot # : **36 - 1548**
street name : AVENUE BLISS

Surveyed by : Asmahan Abou-Jawdeh, Ivan Limanski, Lana Yamak.





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Book design by one-off 1998
Computer re-drawing and page layout by Kamal Marrouch
Proofreading by Helen Khal and Alison Walley
Photo scanning by Michel Assaf and Leogravure
Photo editing by Michel Assaf
Printing by Calligraph, Beirut, on Heidelberg SORMZ

Typography: Optima, Gill-Sans, Frutiger, Century Old Style
Paper: cover, 300gsm uncoated paper
inside, 150gsm uncoated paper

This book investigates the early Westernization of Beirut's domestic architecture from the late nineteenth century to the end of World War II, emphasizing the development of the central-hall buildings from a suburban house to an urban apartment model.
Until the preparation of this manuscript, few architectural studies had been conducted on this transitional phase between tradition and modernity. This book intends to fill this gap through an extensive documentation and analysis of remaining residential structures. It is backed by a historical research on the socio-political and cultural context underlying Beirut's emergence and establishment as a capital city and la porte de l'Orient under French Mandate influence.
However, a more immediate aim is to raise consciousness about an endangered heritage pertaining to Beirut's recent past and to provide more informed criteria for its analysis, classification and preservation.
From an academic and professional perspective, this study starts from the premise that central-hall buildings have contemporary relevance and, therefore, are open to modern interpretation as generative models for design thinking. They appeal both to the general public and design professionals through their diversified stylistic features and their synthesis between Western influences and vernacular traditions.
Accordingly, Mandate central-hall buildings constitute a promising avenue of investigation to explore and to learn from, especially following half a century of partially assimilated modernism.

Robert Saliba is an urban design and planning consultant and former assistant professor at the American University of Beirut.